PRODUCTION NOTE

Library Trends

Trends in the Scholarly Use of Library Resources

D.W. KRUMMEL
Issue Editor

April 1977

Library Trends

A Publication of the University of Illinois Graduate School of Library Science

LIBRARY TRENDS, a quarterly journal of librarianship, provides a medium for evaluative recapitulation of current thought and practice, searching for those ideas and procedures which hold the greatest potentialities for the future.

Each issue is concerned with one aspect of librarianship. Each is planned with the assistance of an invited advisory editor. All articles are by invitation. Suggestions for future issues are welcomed and should be sent to the Managing Editor.

Published four times a year, in July, October, January, and April. Office of Publication: University of Illinois Graduate School of Library Science, Urbana, Illinois 61801. Entered as second-class matter under the act of August 24, 1912.

Subscription price is $15.00 a year. Individual issues are priced at $4.00. All foreign subscriptions and orders should be accompanied by payment. Address orders to Subscription Department, University of Illinois Press, Urbana, Illinois 61801. Editorial correspondence should be sent to the Publications Office—*Library Trends*, 249 Armory Building, University of Illinois Graduate School of Library Science, Champaign, Illinois 61820. Indexed in *Current Contents, Current Index to Journals in Education, Library and Information Science Abstracts, Library Literature, PAIS,* and *Social Science Citation Index.*

US ISSN 0024-2594

PRINTED IN THE U.S.A.

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VOLUME 25 • NUMBER 4

APRIL 1977

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Introduction

D. W. KRUMMEL

SCHOLARSHIP and libraries depend on each other. The scholar's search for truth is based on his/her interpretation of evidence; the library, fulfilling one of its several functions in the society which supports it, serves as a repository for the documents which preserve that evidence. The results of the scholar's labors become, in turn, a part of the record of civilization, which is incorporated in libraries and which, through the efforts of future scholars, will be extended, reevaluated, and revised. The record thus accumulates and expands in its comprehensiveness (as Bacon might have it), as the problems which it addresses and the methods which it uses change (as modern philosophers of science might prefer to have it).

When the history of mid-twentieth-century scholarship is written, the list of major events will almost certainly reflect some of the major events in the recent history of libraries. One thinks of the following:

1. *Growth of research library collections.* Fremont Rider's now-classic predictions of library expansion have held up rather well, and a new kind of institution has been the result, with problems of storage and access, operational complexity and cumbersomeness which were virtually unknown a generation ago. Furthermore, the number of research libraries has also increased significantly. The proliferation has created an intense competition for scarce and valuable materials, as well as a decentralization of resources. (Even without an economic crisis, in other words, the concept of "resource sharing" would have made good sense; now we need only to figure out what it means.)

2. *Expansion of the scholarly literature.* Publishers of research books and journals have been flourishing, thanks in large measure to the

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support of library acquisitions programs. Despite the short supply of new scholarly texts needing to be published, a surplus demand for materials from libraries could for a time be comfortably accommodated by the brief bonanza of the reprinters. More recently, with the demand from libraries down and the supply of productive scholars up, the specialized newsletter has been emerging.

3. *Improved bibliographical resources.* No way has ever been devised for measuring meaningfully the increasing number of bibliographical citations in published lists, but the increase has undoubtedly been significant. In the absence of any coordinated planning (which in any event would surely be quite impracticable), it has perhaps not quite kept pace with the proliferating literature which it has sought to cover; and the bibliography of bibliography now ranks as one of the most poorly covered of all topics, all the more so since the announced retirement of Theodore Besterman several years ago. Published library catalogs have been returning in force, however, while the National Union Catalog, complemented by improving foreign counterparts, has been of monumental significance.
4. *Better access to distant copies.* Microfilm and other forms of photocopying have brought the mountain to Mohammed. To be sure, Mohammed has never been averse to travel. (He enjoys quoting Goethe: "Wer den Dichter will verstehen, muss in Dichters Lande gehen.") The document in Boston, London, or Florence may indeed be more meaningful in its authentic environment (or what may be left of it). Probably no less important to the scholar's insight, however, is the intensity which results from having taken considerable pains to see the document there, not to mention the clearheadedness which can result from either having removed oneself from the political pressures of the home environment, or the likely interaction with colleagues along the way. It takes time—often many months—to collect photocopies from distant libraries, as it takes time to travel: slow time spent waiting compensates for fast time spent inefficiently. Bibliographers also enjoy reminding us of the important things which the camera can not copy for us. The fact remains that the jet airplane and the camera have vastly changed the scholar's work.

Librarians will take justifiable pride in their major contributions to these improvements. But the good news, naturally, is followed by the bad news. The scholar, we must remember, works at the frontier of

knowledge, and makes his or her most meaningful contributions when telling us what we do not already know. As an explorer of the unknown, the scholar's task is to uncover new evidence and to view old evidence in new ways. Our library service, then, is provided with the hope and expectation that the scholar will, in a sense, make our particular service to him or her obsolete. With this awesome prospect in mind, the present group of essays, describing some of the major trends in the scholarly use of library resources, should help librarians plan for more effective service in the future.

Our topic, vast and expanding in many directions, has as many possible contributors as perhaps different scholars in different disciplines, at different times in their careers, approaching different topics from different viewpoints. Comprehensiveness is quite impossible. For this collection of essays, approaches have been selected which reflect some of the important trends with significant implications for the research library. Two other areas of importance—sound recordings[1] and archival materials[2]—have been omitted in deference to major recent surveys; for several other possibilities, the right contributor did not come to mind or was not available. The topics are for the most part delimited in terms of particular kinds of library materials and library use of those materials rather than by particular academic disciplines or research methodologies, although the overriding consideration was a balanced selection of diversified contributors, approaching their topics from a variety of different angles.

Specifically, the first two contributors speak essentially from experience with printed books, but with some basic implications for all kinds of library materials. The first paper is descriptive in its concern for the broad field of recent Renaissance scholarship, while the second is more prescriptive of library service to all kinds of bibliographical work. The others are devoted to what, in the conventional wisdom of librarianship, are called the nonbook areas. The studies of visual information and of popular culture will be seen to converge in a number of basic attitudes, although the orientation of the first comes from the critical field of art history, while the latter has developed more out of the normative fields of the social sciences. Apart from their different origins and objectives, the two fields also pose totally different problems for the librarian seeking to identify the specific documents involved for purposes of acquisition, description, and special maintenance as a research collection. In many ways these two inquiries seem still waiting to be born as proper scholarly "paradigms," although their arrival has long been a foregone conclusion,

and libraries have quite wisely been busy with their knitting.

Maps and music, in contrast, are well established; however, there is an interesting juxtaposition of the two which is well reflected in the two essays included here. Maps are portrayed as serving an increasingly diversified audience, while music appears from the present description (and I think it is an honest one) to be serving an increasingly specialized scholarly community (at least as it involves scholarly research, it should be emphasized; the impact of music itself on human experience is another matter). Meanwhile, among the totally new kinds of library materials is the computer data base—born joyous and oversize onto the scene, like Gargantua, and with some of his same social adjustment problems, at once something of a field, a method, an objective, and a kind of library material in its own right, but in each of these respects with its political reality better established in the world of scholarship than its intellectual orientation. Thus, it seemed appropriate that these essays should be tied together by a library administrator concerned with the implications for library management policies and practices. The quantitative growth of research library collections is well enough documented; it is the qualitative effect of these developments on the mission of the library which particularly needs attention.

The choice of topics may at first seem to be biased toward the humanities. As the responsible editor, I am reluctant to concede this point, partly because the very concept of humanities has so many different meanings which become confusing and often rather meaningless in relation to each other—all the more so when they are applied to library policy matters. More importantly, there is another bias, more meaningful in its implications on library policy, which has been built into the choice of essays, and to which I would like to call special attention.

Library resources, viewed in the classic dichotomy of form and content, have a physical and an intellectual existence. Such a distinction results in the use of a library for its artifacts and for its information. The two manifestations are reflected in the modern cataloger's differentiation between the "book" and the "work"; elsewhere, one is the medium and the other is the message. Because all library resources are simultaneously both, the consideration of their scholarly use in libraries must be concerned with both. The student of the physical objects, in any event, usually begins with bibliographical citations, many of which are conceived for work with the intellectual content; while the scholar working basically with the text itself will

often find it necessary to delve into the physical form of the evidence.

Throughout these essays—directly or implicitly, in general or specific terms, and otherwise variously manifest—runs the underlying concern for the different kinds of physical objects which make up the library's collection. The topics and the contributors, to be sure, were chosen with this expectation in mind; and to the extent that the concern for physical evidence may itself be labeled as "humanistic," the present topic may be viewed as one "limited" to the humanities. Instead, it seems more appropriate to view the concern for physical objects as one of the scruples which distinguishes all scholarship claiming to be authoritative. Above all, let us remember, the concern for physical objects does not in itself necessarily disparage the search for intellectual content, or such research as can be limited to intellectual content without recourse to considering the physical objects. Nor should the librarian's work in providing information be disparaged; indeed, the improvement of enumerative bibliographies in particular will continue to be one of the major concerns of the librarian. One has only to recall the experience of the medievalist whose literature was scattered among thirty periodicals and collections in six different languages:

> This great physical difficulty has had the result that few of those who have [contributed to this controversy] have had a complete knowledge of all that has already been said or suggested or settled, and they have consequently flogged dead horses, passed red lights, pushed at open doors and barked up the wrong tree. Sometimes even, through a sense of frustration, they have abandoned any hope of contributing to an understanding of the matter. If every writer had been able and willing to find out exactly how things stood before he wrote, the literature of the controversy would have been less bulky, but perhaps more helpful, and some at least of the hazardous guesses would never have reached the printed page.[3]

The staff of the research library makes many decisions as it organizes its program to meet the needs of its users. It apportions its staff, collection development program, space and bibliographical activities in terms of its various objectives—service to undergraduate and general use (as opposed to advanced study), to different academic departments and special programs, to its local or interinstitutional public. Similarly, decisions are made which, intentionally or inadvertently, will favor or damage the service to the users of either the physical or the intellectual resources of the collection. To be specific,

it was assumed not long ago that the users of the physical objects needed some special favor among scholars: their instincts were likely to be sympathetic insofar as they were bibliophilic, and their willingness to go to the trouble of visiting and coming to know us in person, rather than to work from photocopies, made special friends of them. Quite innocently, we could also see our service to scholarship—involving the acquisition of rare books and special collections—the rarer and the more special, the better we were doing our job. In reaction, the notion arose that the intellectual resources of the library (generally what humanists called "ideas," and scientists later "information") could be extracted, thereby liberating the institution from a vain, outmoded and expensive materialism. Much of the unique agony suffered by librarians in contemplating the dilemma of "the two cultures" is derived from such simplistic attitudes.

The library, of course, handles both the physical and the intellectual resources, whether it likes it or not. Furthermore, the costs of handling each (to the extent that they can be separated) are rising sharply—mostly, it may be proposed, as a result not of inflation so much as of scholarship itself. As I hope the bias of these essays will suggest, it is the costs as well as the opportunities involved in physical handling which will necessitate some major reconsiderations for the research library, in two respects:

1. Librarians and scholars need to consider the cost of authenticity. Scrupulous scholarship calls for the use of best evidence, but the most significant scholarship is not necessarily the most scrupulous, or vice versa; in view of the costs involved, it behooves us to consider the difference. Specifically, the costs of authenticity involve the acquisition of those scarce documents which incorporate the best evidence, then control of their use, and finally—very important today—conservation of them. Furthermore, such documents call for a specially trained staff, knowledgeable in both analytical bibliography and its offspring dealing with the other media, able to make responsible decisions about acquisition, handling and conservation, and aware of the characteristics and needs of the scholars themselves. (For one thing, these librarians will need to communicate with scholars and with each other through the languages of descriptive bibliography, especially in the light of recent simplifications and alterations of library descriptive cataloging practices.)
2. The special advantages, characteristics and problems of the dif-

ferent library media need to be better comprehended in order to overhaul our programs for handling each. That favorite whipping post, the so-called "book orientation" of libraries, needs to be recognized for the friend and the enemy which it indeed is—at once the giant on whose shoulders our dwarves are standing, and the basis for the consistency of foolish minds. (By and large, I might propose, in terms of the library's intellectual resources it is more the former;[4] in terms of the physical resources, more the latter.)

"I can wait five hundred years for an interpreter, as God has waited five thousand years for an interpreter." Kepler's classic statement of faith will obviously place one more responsibility on the overburdened librarian. The very notion of a frontier of knowledge five hundred years from now is surely too visionary to consider; about all we can hope and plan for is the preservation of evidence. Serving the relatively immediate needs of tomorrow's scholars is a more meaningful problem, to which this collection of essays is addressed. Deliberation will lead to some painful decisions, for both the scholar and the librarian (both of whose instincts are still largely libertarian and whose sensitivity to *hubris* no doubt helped in formulating their career decisions). Furthermore, that very cornerstone of modern librarianship known as "service to the user" (Ranganathan's Very First Law, no less) could come under fire, due to the fact that services to today's users might result in some disservice to tomorrow's users. The differences among use, misuse, and even abuse are not always obvious,[5] and even the most careful and purely intellectual use will require some handling of the physical item, and in any event will encumber handling expenses which might be deployed elsewhere. Viewed in terms of three classic prototypes from library history, we must avoid defining our mandate so narrowly as to relegate ourselves to a niche in history next to John Bagford; nor dare we use the long-range future as an excuse for becoming a new breed of medieval dragon-librarians guarding our treasures; nor, alas, can we hope to enjoy the laudatory success of the New York Public Library as a public service institution to scholars without inheriting the massive conservation problems which that great library faces today. The need for informed policy decisions in libraries for purposes of continued service to the "cutting edge" of scholarship must continue to be served.

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Scholarly Use of Renaissance Printed Books

HOWARD W. WINGER

IN SURVEYING RECENT scholarship concerned with books printed during the Renaissance, it is useful to examine the methods which were used in some of the major landmarks of recent research, and to consider how the authors developed their material. The very field, it should be remembered, is largely an interdisciplinary one, involving scholars with many different academic backgrounds. Their aims are also quite different, as are their methods. While this diversity might appear to frustrate any generalizations to be drawn by the librarian, several very important conclusions will nevertheless be seen to present themselves.

The major use of books printed during the Renaissance derives from the revolution that the invention of printing introduced in the intellectual life of Europe during the sixteenth century. For the first time in Western history, scholarship was able to proceed simultaneously on many fronts.[1]

This change was essentially a qualitative one, but also one brought about by a revolutionary increase in the quantity of books available. Because of the number of copies created by the printing process, many topics of inquiry and of public interest (not to define scholarship too narrowly) no longer had to depend for survival and development on hand-copying. Theologians, classical humanists, vernacular authors, political and religious polemicists, legal scholars, scientists, travelers, chroniclers, newswriters, and historians could all follow and record their own thoughts and interests. These developments were brought about only in part by relative economies in production: the volume which resulted made possible even greater economies in distribution,[2] enabling more people in more places to own more books, and providing them with the means and motivation to write more books of their own. Such events seem to have stimulated

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the inception of both a wider reading public and the proliferation of specialized audiences.

These events from 1450 to 1700 created a bibliography of great range and variation in quality. Despite the reputation for scholarly care enjoyed by the great printers, such as Aldus Manutius in Venice, Arnao Guillen de Brocar in Alcalá de Henares, Johan Froben in Basel, Robert Estienne in Paris, Christoph Plantin in Antwerp, and the Elseviers in Leyden (to name some of the most famous), not all of their colleagues were equally skilled or discriminating. Some texts were bad, but they were not revised. "A bad text on a seemingly important subject would continue in circulation," wrote Rudolf Hirsch in 1967.[3] Curt Bühler had enlarged on the subject of fifteenth-century books somewhat earlier: "The large bulk of publication has, at all times and in every age been dedicated to the publication of useless trash—often not even entertaining stupidities. . . . Every book, however, has some significance for its own period." The desire to evaluate that significance forces the scholar to look at the whole range of printed books, the bad as well as the good.

One of the most striking examples of a scholar's attempt to evaluate the whole bibliography of a period is H. S. Bennett's monumental three-volume survey of English books and readers and the English book trade from 1475 to 1640.[4] Citing and often quoting from thousands of books published during the period, he discusses such subjects as translations, religious polemics, Bibles, catechisms, devotional literature, sermons, gallows scenes, law, education, medicine, herbals, husbandry, arithmetic, astronomy, science, geography and travel, history, news, witchcraft, and literature.

Bennett's work was a labor of decades, but it must be pointed out that he could not have done it at all without the preceding work of other scholars over a longer range of decades. Essential was the *Short-Title Catalogue of Books Printed in England, Scotland, and Ireland, and of English Books Printed Abroad, 1475-1640,* compiled by A. W. Pollard and G. R. Redgrave.[5] No such comprehensive list exists for any other major country over this time period. To assist him in analyzing the book trade, Bennett used Paul Morrison's *Index of Printers, Publishers, and Booksellers in A. W. Pollard and G. R. Redgrave.*[6] To help him divide the list into his chronological periods, he had available the chronological list of the more than 26,000 items prepared by the research department of the Huntington Library—a tool that has been legendary among students in university English courses, but never made generally available.[7]

The necessary reliance of Bennett on earlier bibliographical scholarship included sources long preceding the *Short-Title Catalogue* and its derivatives. Arber's *A Transcript of the Registers of the Company of Stationers*[8] and the *Records of the Court of the Stationers' Company*[9] begun by Greg and Boswell and carried on by Jackson were cited constantly, as were the well-articulated series of biographical dictionaries of printers, publishers and booksellers.

Original copies of the books listed in the *Short-Title Catalogue* were accessible to Bennett mostly in a few great libraries—the British Museum and the Cambridge University Library in England, and the Houghton, Folger, and Huntington libraries in the United States. He also pays generous acknowledgment to the library of the University of Chicago: "Thanks to the enlightened policy of the authorities, the University has a large collection of microfilms of these books, and a wealth of equipment for their use. During my stay there as visiting Professor I made almost daily use of these facilities, and my work profited accordingly."[10]

In range, comprehensiveness, varied points of access, and well-considered articulation, the bibliographical tools for the study of English books printed from 1475 to 1700 have no equal. Of course, with modern technology and organization, they could be improved. If the *Short-Title Catalogue* were in machine-readable form, for example, it would be much easier to sort out books by dates, printers, publishers, booksellers, and formats than it now is. If centralized depositories, such as the Center for Research Libraries, had funds to pay for the cost of sending out microform copies of *Short-Title Catalogue* books on demand to scholars in institutions which have no microfilm collections of them, the access would be improved—although it would hardly be feasible to send out copies on the scale Bennett used them.

In some contrast to Bennett's work is the work of Peter Bietenholz, *Basle and France in the Sixteenth Century: The Basle Humanists and Printers in their Contacts with Francophone Culture.*[11] Like Bennett, he was interested in a large bibliography of books as applied to a large group of readers: publications of French-speaking authors intended for distribution to a French-speaking public. First he had the problem of identifying the Francophone writers published in Basel. For that task, and in order to discuss them authoritatively, he relied heavily on the work of preceding scholars and on modern critical editions; humanistic scholarship is partly cumulative, at least. However, he did have to compile his own bibliography. For this, he was able to rely on special bibliographies and on special works such as the guide to Basel

printers' marks by Heitz and Bernouilli, and Josef Benzing's very useful *Die Buchdrucker des 16. und 17. Jahrhunderts im deutschen Sprachgebiet.*[12]

Beyond these fragmentary aids, a major task for Bietenholz was then to compile a list of books published in Basel from 1470 to 1650 by Francophone authors, editors, translators, and contributors, and by subjects relating to France. The problem was complicated because, for reasons of religious and cultural conflict, some books printed in Basel did not bear a Basel imprint, while others that were printed outside liked to draw on the prestige of a Basel printer by using a false Basel imprint. In his search, Bietenholz used the Basel University Library collection and the unpublished catalog of printers maintained there, proceeding next to the collections of the Bibliothèque nationale in Paris and the British Museum. From these sources, he compiled a list of 1,049 books published in Basel, 115 dissertations printed by 1650 (of which most are represented only by a single copy in the University Library), 34 books printed for Conrad Resch at the Ecu de Bâle in Paris, and 22 fictitious Basel imprints.

To identify his books, Bietenholz relied heavily on printers' devices and ornaments. These show up well in photoreproduction, and he might have carried on a large share of this work with a microform collection (notwithstanding occasional problems of scale), if such a collection existed and had he not needed to travel to another city to view it, thus encountering some of the same expenses he must have had at Basel, Paris and London. (Even under these circumstances, however, he would have lacked the important assistance of Mme. Veyrin Forrer of the Bibliothèque nationale who directed him to the notes of P. Renouard for the list of books printed for Conrad Resch.)

In fact, no such collection of microforms now exists. *The Short-Title Catalogue of Books Printed in the German-Speaking Countries and German Books Printed in Other Countries from 1455 to 1600 now in the British Museum*[13] is in the process of microreproduction, but it represents the collection of only one library, covers only up to 1600, and is not completely reproduced. If we are looking for ways to help scholars who are making use of printed books of the Renaissance, we will need to remember for some time to come the relative economy and fruitfulness of travel grants and fellowships.

This is not to deprecate the value of photographic copies. Renaissance scholars, like other scholars, students, and public library patrons, find photographic copies of one sort or another the least

laborious and most satisfactory way of taking notes. Before the days of photocomposition, of course, the original printed book had to be preserved somewhere in order for a copy to be made. When photocopies are available, however, they can sometimes serve purposes that originals cannot, for they can be cut apart and rearranged in tables to clarify an argument. Ivan Kaldor's "Slavic Paleography and Early Russian Printing"[14] illustrates this technique. Part of Kaldor's problem was to explain the genesis of the Civil Type commissioned by Peter the Great and developed between 1703 and 1710. By cutting apart copies of specimens, he was able to present a letter-by-letter tabular comparison of various Dutch and Russian experiments with casting Cyrillic characters.[15]

Some Renaissance scholarship is bibliographical and has as a major goal the ordering of editions. This depends on the artifactual book. *The Problem of the Missale Speciale,* by Allan Stevenson[16] is a brilliant example. His problem was to date a book that had such widely varying attributions as 1450 and 1472. In approaching the problem, Stevenson dutifully and clearly set forth the reasoning and conclusions of previous scholars with appropriate citations to their work, demonstrating that a collection to support Renaissance studies properly needs to hold the records of modern scholarship. From that, he proceeded to his own particular specialty, the analysis of watermarks in paper.

Working on the hypothesis of Claude Briquet that watermarks in paper have a short life in the productive process, Stevenson examined the watermarks in the *Missale Speciale* (commonly called the Constance Missal), an undated book that some scholars had concluded, from typographical and textual evidence, was printed before the 42-line Bible (commonly regarded as the first *book* in western Europe printed from movable metal type). In pursuit of his method, Stevenson had to examine all the extant copies of the *Missale Speciale* and the *Missale Abbreviatum* to discern their watermarks. He then had to examine other books printed between 1450 and 1480 in search of the same watermarks; he found ten, some of which were dated. It comes almost as an anticlimax to report that he dated the missal sometime after 1470, confuting so many distinguished bibliographers who had argued for an earlier date. The point, as Stevenson strongly contended, is the importance of paper as bibliographical evidence, and for this, the investigator needs the original.[17]

One perhaps should not leave Stevenson without mentioning his

work in volume 2 of the *Catalogue of Botanical Books in the Collection of Rachel McMasters Miller Hunt.*[18] With each entry he included watermark information. If such information were consistently included in catalogs of early books, it might direct careful editors to the copies needed to solve textual problems. Such careful physical analysis, however, contradicts the current trend to make cataloging routine.

The most such a catalog as Stevenson proposed could do for the textual critic interested in watermarks and imposition would be to provide a guide to copies the editor would need to see. The complexity of the relation of watermarks to text in revealing the order of printing was described long ago by Harris Fletcher in *John Milton's Complete Poetical Works, Vol. II: The First Edition of Paradise Lost*:

> Actually, the watermarks in the paper on which existing copies of the first edition of *Paradise Lost* were printed, and the typographical variants as they occur, are the two elements that make it possible to solve and understand most of the more important bibliographical problems connected with the edition. Starting with the known printing practices of the time, it is possible to deal with any copy of the first edition today and account for any important bibliographical fact concerning it, almost entirely on the basis of comparing its printed text with the known typographical variants and its paper with the known varieties used in other copies, identifiable by means of the watermarks which occur therein.[19]

In his research, Fletcher used fifty-four original copies and ninety-eight photographic copies.

After citing some studies where access to early editions is essential either in the originals or in photocopies, it is interesting to examine *Erasmus of Christendom*, by Roland Bainton.[20] This is a distinguished book by a distinguished scholar. Peter Bietenholz, who has impressive credentials himself as an interpreter of Erasmus, reviewed it as a courageous and bold book, certain to replace the life of Erasmus published by Johan Huizinga in 1924 as the standard biography, although he noted that "most citations are highly selective summaries of what Erasmus really wrote."[21] In another review, James Tracy praised Bainton for "many fresh observations of the kind only possible for one steeped in the sources."[22]

Erasmus was a prolific publisher and letter writer in his time, as were his friends and antagonists, but in his discussion Bainton does not find it necessary to refer to original editions. The bibliography covers fifteen pages, including lists of English translations, modern

critical editions, and modern critical studies. Sources cited range in date from 1861 to 1968. Of the twenty-two most frequently cited sources, most are modern scholarly periodicals. Only the sixty-two illustrations printed in the book come principally from sources contemporary with Erasmus, with seventeen coming from the author's home base at the Yale University Bienecke Library.

Some tempting inferences follow from this example. One is that humanistic scholarship surrounding a major figure is cumulative, and we need that scholarship at least as much as the original sources. Another inference is that Bainton, "steeped in the sources," as Tracy wrote, had gone through a very long period of assimilating primary source material that enabled him to select, with so much approbation from his peers, the relevant secondary sources to support his new interpretation of Erasmus—a task that obligated him to review earlier interpretations. Accomplished scholar and writer that he is, he did not think it appropriate to cite everything he had ever read. A third inference is that there is nothing like an original to provide illustrations that adorn and/or illuminate the text.

In this brief discussion of the scholarly use today of books printed during the Renaissance, I have not thought it necessary to elaborate on the importance of those early texts for an understanding of the period. This is self-evident. I have tried rather to look at some works of acknowledged scholarship to see what reliance the authors placed on early texts, whether photographic copies could serve the purpose, and how convenient the paths of access are. Several major conclusions may be drawn. (1) To begin with, historical research begins with a review of current scholarship. Starting with nothing, a library seeking to support Renaissance scholarship ought first to acquire bibliographies and the results of current scholarly work. (2) To be sure, original copies of printed books are essential when their artifactual characteristics are in question, as in dating of undated texts. As Bennett's work suggests, however, (3) microforms of early printed books do suffice for many purposes of information, although (4) the lack of comprehensive and articulated bibliographical guides inevitably hampers access to originals, as well as to reprints and microforms. Meanwhile, (5) the conversion of bibliographical information to a machine-readable data base would provide an important flexibility for scholars. Finally, (6) travel grants and fellowships remain relatively economical devices to aid Renaissance scholars in their research.

Studies of Renaissance printed books on a more comprehensive scale might be useful. Citations could be analyzed not only to discover what early editions were cited, but also whether there are later editions and whether microforms are available. The problems encountered in pursuing such an investigation, however, consume much time for finding their solution. In looking for subsequent editions, one can first look for bibliographies of the authors cited, because there is no union bibliography of works published since the fifteenth century. This can be only partially fruitful, however, because the very point of citing some authors is to bring again to light works that have been ignored in succeeding centuries. One can then only look at the catalogs of great libraries and examine the partial bibliographies that have been completed.

To ascertain the existence of microform copies presents equally large problems, because there is no current union catalog of microforms. A report by the Association of Research Libraries published in 1972 begins with the statement: "Bibliographic control of microforms is a foremost need in today's library world."[23] Not surprisingly, it remains so four years and many new publishing projects later. The report made a number of proposals for improvement, such as urging libraries to cooperate better with the *National Register of Microform Masters* and the inclusion of microforms and analytics for them in the MARC (Machine-readable Cataloging) project. These proposals are expensive in may ways to implement, however, and improvement is hard to see. One must still search in the catalogs of various publishers and in indexes of projects.

A statistical count of citations and a follow-up study of new editions and microform reprints would show how often Renaissance scholars rely on early printed books and how accessible alternative sources for them are. Numerical balances, however, could not reveal how essential the early edition would be to the development of a study. A case to illustrate this occurs in an analysis[24] made by Frederick Russell of the sources cited in his own work, *The Just War in the Middle Ages*.[25] Manuscript sources were inevitably required for such a medieval topic. The number of citations to printed sources, however, far exceeded his citations for manuscript sources. Of his printed sources cited, nineteenth-century standard texts and editions outnumbered all others. (After all, Migne was published in the nineteenth century.) His use of sources varied from chapter to chapter, depending on the development of his subject. In the fifth chapter he discussed the Decretalists from 1190 to 1300, and made 284 citations. Forty percent

of these were to sixteenth-century printed books, slightly more to manuscripts. Commenting on this, Russell wrote:

> An informal and impressionistic hypothesis concerning the Decretalists of Chapter 5 held that the most important sources were to be found in the sixteenth-century works. Given the slight edge that manuscript sources had here, the hypothesis appears untenable. Yet the author is convinced that the most significant material came from sixteenth-century works.[26]

This testimony to the importance of early printed books seems like a good point on which to end. Russell can hardly be accused of antiquarianism. The manuscript books, which he cited more often, were even older than the sixteenth-century books, which seemed more important to him. However, the manuscript copies from which his early printed editions were set, in most cases, were no longer extant. Thus, the discussion concludes where it began, with Eisenstein's observation that printing permitted scholarship to advance simultaneously on many fronts, because the loss of a manuscript did not result in the loss of a text and the lapse of tradition.

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Bibliographers and the Library

G. THOMAS TANSELLE

OF THE SCHOLARS who enter libraries to pursue research, those who call themselves bibliographers have been among the most vocal critics of the policies and attitudes they encounter. That there should be such divergence of opinion, and at times even mutual disparagement, between bibliographers and librarians is particularly distressing because the two fields are naturally related and, indeed, overlap (especially in their interest in the identification and recording of printed material). Developments in one field are bound to affect the other, and progress can best be made in both if a spirit of cooperation and understanding exists between them. Just why this understanding frequently is not present is a complex matter. Stereotyped views of certain scholarly activities may exacerbate the problem—as when literary critics belittle bibliographical work, or when bibliographers in turn look down on library work—but these prejudices are, of course, symptoms rather than underlying causes of misunderstanding. The prejudices will decrease as workers in one field come to understand what their colleagues in an associated field are really doing and what relationship that activity bears to their own. With this in mind, I should like to try to describe the bibliographer's approach to books and to indicate some of the implications of that point of view for library policy. In doing so, I do not mean to suggest that librarians are unique in sometimes failing to understand what bibliography is about; just as much misunderstanding exists within academic departments. Moreover, the cause in each case is the same: a failure to recognize the relationship between the form and the content of books.

Any attempt to explain what bibliographers do must first confront the awkward word *bibliography* itself, a word which has been applied to a considerable variety of activities. What most people think of when

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they hear the word is a list of works on a given subject, and this usage is the one prevalent in libraries—which often have staff members designated as "bibliographers," whose job it is to know the literature of particular fields and to select new material for acquisition in those fields. This kind of bibliography is concerned with the content of books. But the word *bibliography* somewhat confusingly is used to refer to another activity as well: the investigation of books as physical objects. Printing and publishing history is one example of this kind of bibliography; descriptive bibliography—the systematic recording of the physical features of books—is another. A descriptive bibliography, which usually takes up a group of related books (such as those containing works by a single author), is one specialized kind of publishing history, for it records some of the specific details upon which the generalizations of a more encompassing history must be based. Still another branch, which underlies both of these, is what has come to be known as analytical bibliography: the analysis of the physical evidence in a book in an effort to determine as many details as possible of its printing history. This work is basic, because it focuses on the primary evidence of the books themselves; information found in publishers' archives or advertisements must be regarded as incorrect if it is contradicted by the actual book before one's eyes.

Recognition of the importance of physical evidence and increasing sophistication in its use have been perhaps the major developments of twentieth-century bibliography, stimulated by McKerrow's influential *An Introduction to Bibliography for Literary Students* (published in 1927, having appeared in an earlier form in 1913)[1] and the work of Fredson Bowers[2] and his establishment of *Studies in Bibliography* in 1948. While most of this research has been undertaken by literary scholars whose primary interest is in the assistance which analytical bibliography can offer to the establishment of accurate texts, it is nevertheless true that analytical bibliography is not merely an aid to literary study but is an independent field, of interest in its own right. As such, it—like descriptive bibliography and printing and publishing history—is a form of history. Although some analytical techniques, such as the analysis of compositorial spelling, depend on a knowledge of the language of the text, the intellectual content of the text is irrelevant to bibliographical analysis. Similarly, a descriptive bibliography of an author is not concerned with assessing the literary qualities of the works involved; and if the history of a publishing firm occasionally comments on the significance of certain works, it is to that extent moving into literary history and away from historical bibliog-

raphy. All these kinds of bibliography, then, concentrate on books as physical objects and are not directly concerned with the content of the texts conveyed through the vehicle of the physical book.

This distinction between the physical and intellectual aspects of books has often been pointed out, and I do not wish to belabor it here. Several years ago Lloyd Hibberd suggested the terms *reference bibliography* and *physical bibliography* for the two large divisions of bibliography,[3] and the terms do usefully suggest what differentiates the two approaches. The difference between a "bibliography" at the end of a book or article and a full-scale descriptive bibliography is not really the quantity of detail. It is true that the latter is likely to be more detailed than the former, but the crucial difference is that it is concerned with physical details, whereas the former is concerned with details relating to content. A physical bibliography could be sparse in its recording of details, and a reference bibliography might provide copious annotation, but the amount of detail in each case would not alter the basic orientation of the bibliography.[4] All this seems obvious enough, and yet precisely this distinction between the two ways of looking at books lies at the heart of the misunderstanding which often exists between bibliographers (I shall use this term to refer to physical bibliographers) and librarians.

If some people in both groups have now learned to be fairly careful in distinguishing these two kinds of bibliography, much less care has been taken about the usage of the word *book*. An author's "latest book" means, more often than not, his "latest work." There is no harm, of course, in using *book* as a synonym for *work*, as long as the concepts do not get mixed up; but when one person in a conversation is thinking of books as works and another is using the word to refer to physical objects, confusion is bound to result. A bibliographer's angle of approach, his entire way of thinking—what Bowers has called the "bibliographical way"[5]—is based on a recognition of the importance of paying close attention to the physical features of a printed book; most librarians, on the other hand, have been trained to think of a book first of all in terms of its content, i.e. as a novel, a poem, a statement on a particular subject. The distinction between *books* and *works* is clearly basic,[6] and it must be kept firmly in mind by bibliographers and librarians if they are to achieve a real understanding of one another's problems and concerns.

Librarians in general do normally recognize that one branch of their profession—rare-book librarianship—deals with books as physical objects. Writers on library matters have often pointed out that the

materials in a collection of so-called "rare books" are there because the physical form of the items is in itself important.[7] A first impression or a private-press book is included in the collection not necessarily because it is rare or worth a lot of money, but because that particular physical embodiment of the text is of interest in its own right and requires special protection for its preservation: a text, after all, can be reproduced in numerous ways, but an artifact cannot be recreated. The proportion of librarians, however, who work with "rare books" is naturally quite small, and library schools have not in the past paid a great deal of attention to training "rare-book" librarians—a failing which has been lamented by a number of people, both bibliographers and librarians.[8] As a result, many librarians have tended to think of "rare books" as a special problem out of their domain; in effect, they have tended to assume that books of interest as physical objects have been largely segregated into "rare-book" departments and that the remaining books under their care are primarily useful for the texts they contain. The point which obviously needs to be more widely understood is that no precise dividing line exists between "rare books" and other books, and that any book can in fact be approached as a physical object. Every book, however lowly or undistinguished, occupies its own niche in printing and publishing history, and there is no book that a bibliographer may not need to examine for its physical makeup. The bibliographer, in other words, approaches all books in a library as if they were "rare books."

This approach should not come as a surprise to any librarian, even those who are not associated with research libraries and who cannot expect very often to encounter a reader with a bibliographical point of view. Nevertheless, many librarians, not having been exposed to much physical bibliography in their training, do seem to be surprised by bibliographers' expectations. I recently had occasion to check an early printing of a state constitution, and I dropped by a library which had reported possessing a copy. It turned out that the only copy there was a photocopy, and the staff member I talked to did not seem to understand why that would not do or why I considered the library to have been wrong in reporting the copy. This librarian evidently was so accustomed to thinking of the materials he dealt with as *works* that he could not conceive of anyone thinking of them as mere *books*, as physical objects. Every bibliographer has a fund of such anecdotes, and many of them have appeared in print.[9] No purpose would be served by extending the repertoire here: it is clear that this difference in point of view exists and that it can provoke hard feelings. What is

important is to understand why it exists, as a prerequisite for trying to improve the situation.

One can see why a small-town public librarian, for instance, who has not been trained in library school to think of the physical aspect of books and whose readers virtually never raise a bibliographical question, might be almost totally unaware of physical bibliography; this failing would not really be the librarian's fault or reflect any personal lack of conscientiousness. At the same time, one can see why a bibliographer, visiting that library upon learning that it contained a copy of a late printing of a particular edition, would be exasperated when the librarian recommended the use of a more up-to-date and accessible edition and when the book, finally retrieved from storage, proved to be rebound. To the bibliographer's mind, such librarians are oblivious of part of their duty, failing to recognize that they have collections of books—not simply works—under their charge. The title of Randolph Adams's famous essay, "Librarians as Enemies of Books,"[10] sounds harsh, but when carefully interpreted it points to an important truth: librarians are not usually enemies of works, for they are generally efficient in classifying and disseminating knowledge; but they are often enemies of books, for they are frequently careless of the physical forms in which those works are presented.

The reason that librarians—of all kinds, not just "rare-book" librarians—*should* be concerned with books as well as works is simple to state, but enormous in its implications: works can be transmitted only by being incorporated into tangible or audible forms. A work is an abstraction, which can be given a concrete embodiment in a manuscript, a printed book, a sound recording, and so on.[11] No single manuscript or book contains *the* text of a work, but only one embodiment of that text; and the nature of the processes (such as typesetting or proofreading) involved in the physical production of texts is such that one cannot expect the texts in any two embodiments of a work to be identical. A first-edition text is not likely to be the same as the text of the manuscript, and the second-edition text will, in all probability, be different from the first. Changes, both intentional and inadvertent, can occur within an edition as well—either between impressions or even during the course of a single impression.[12] No two copies of a work, then, can be assumed to be identical, even in an age of machine-produced books.[13]

The result of this situation is that anyone who is seriously interested in the content of a work must also be concerned with its physical embodiment, because the text may not say the same thing in any two

copies. Whether the differences are trivial or significant cannot be known without some investigation, but it is naïve to think that one edition or impression of a work will do as well as another. Many people who are careful in other respects, however, have not learned this elementary fact; many historians and literary scholars quote passages for discussion without paying any attention to the physical source of those quotations—using a conveniently available paperback, for example, without checking into its reliability. There is a vague feeling on the part of some scholars that a concern with physical details is somewhat frivolous and beneath the attention of those interested in intellectual matters. The truth is that real respect for the intellectual content of a text must entail an attempt to ascertain its accuracy, which in turn involves an investigation of its physical embodiment. What certain scholars—and that includes some librarians as well—need to acquire is the bibliographical turn of mind, in which all documents are approached in a critical and questioning spirit.

Determining what differences exist among various texts of a work does not, of course, tell one which readings are correct (i.e. intended by the author) at each point. To answer that question requires knowledge of the circumstances surrounding the production of each of the editions (or manuscripts) containing the texts—knowledge derived both from external sources (such as the author's letters or the publisher's records) and from internal evidence as interpreted by analytical bibliography to indicate as much as possible about the exact course of the book through the press. Even all this information may often be inconclusive, and one must finally decide among variant readings on the basis of one's familiarity with and sensitivity to the nuances of the author's style and thought. Thus, the process of establishing an accurate text—that is to say, editing—is not, strictly speaking, a branch of physical bibliography; rather, it is an activity of literary study (hence the familiar term *textual criticism*) which utilizes physical bibliography as a major tool. The reason that editing is frequently discussed or undertaken by bibliographers—and the term *textual bibliography* sometimes employed—is that physical bibliography is basic to editing. Although editing undeniably involves literary judgment, that judgment must operate within the framework of facts established by physical bibliography; the physical investigation must come first, and no judgment on literary grounds can stand if it contravenes established physical facts. It is this insight (essentially a recognition of the intimate relationship between the physical and

intellectual aspects of books) which accounts for most of the remarkable development of bibliography in the English-speaking world in the twentieth century.

The practical results of this approach to editing can best be seen in certain editions which have appeared in the last quarter-century—editions such as Fredson Bowers's of Thomas Dekker,[14] which set the style for a whole generation of editors, or the large series of editions which have been in progress since the early 1960s under the auspices of the Modern Language Association's Center for Editions of American Authors (CEAA) and its new Center for Scholarly Editions.[15] What the CEAA editions are demonstrating is that editing nineteenth-century texts—just as much as editing Renaissance texts—demands analysis of the physical forms in which those texts appear. Several of the CEAA editors have made plans for descriptive bibliographies as part of their projects, for precisely the reason that the two activities are complementary: a detailed descriptive bibliography is invaluable to an editor, but the research necessary to produce it is most likely to result from the process of editing itself. At the moment, the best descriptive bibliographies of certain nineteenth-century American writers are available in the pages of the editorial matter of the CEAA editions. The editors of those volumes are above all concerned with the content of the works they are editing, but they recognize that the content can finally be apprehended only through an understanding of the forms to which that content is tied.

What I have been saying is simply an attempt to summarize the bibliographer's point of view in somewhat abstract or theoretical terms, and I hope that it can provide the background for a brief discussion of certain more specific points. Many people, I think, can follow in general assent the theoretical statement of the bibliographer's position without fully realizing what stand it implies on various practical issues. I should like, therefore, to take up as examples a few areas in which the bibliographer's point of view is likely to differ from that of the average librarian.

To begin with, there is the question of rebinding. In many libraries, when a book in the general stacks has been used to the point where it is coming apart, the book is automatically rebound with a sturdy library binding. The content of the book, so the argument runs, has not been changed, and the effective life of the book has been prolonged. To the bibliographer, however, an artifact has been tampered with, and part of the evidence originally present has now been destroyed. (I am speaking here of nineteenth- and twentieth-century

books originally issued in some form of publishers' binding or casing; earlier books in custom-made bindings present a different situation, although such bindings are also a source of evidence and are of interest in their own right.) Obviously, a rebound book from the nineteenth or twentieth century is almost useless to the descriptive bibliographer, for his job is to describe the physical forms of books and to reconstruct publishing history; he needs, therefore, to see the casing and endpapers as they came from the publisher. There are times when the casing is the sole feature distinguishing between two issues of a book—as when only part of an impression is initially cased, and then some time later the remaining sheets are cased more cheaply for sale in a remainder series. This occurrence has not been an uncommon one over the years, and such facts must be described in any attempt to record the publishing history of a book. The cheap remainder casing is not likely to wear well, however, and collectors—at least until quite recently—have probably not regarded the copies in the remainder casing as particularly valuable; therefore, many of those copies will have been destroyed, and if the others in libraries are rebound one by one, the evidence is in danger of disappearing completely—or, at best, of becoming very difficult to locate.

Any bibliographer who works with nineteenth- or twentieth-century books has encountered similar situations and recognizes that many books of this period are extremely scarce—despite the fact that they are not particularly old and were originally issued in large numbers—simply because they have not fitted into the traditional categories of collecting and have not been sought by collectors and "rare-book" librarians.[16] Books in "rare-book" departments are usually safe from rebinding; but one should remember that any book in the general stacks is a potential future candidate for transfer to the "rare-book" collection. I am not suggesting that librarians should never have books rebound; what I am saying is that they should not do so without giving serious thought to the evidence that will thereby be destroyed and attempting to assess its importance. Furthermore, all librarians have this responsibility, not just those in research libraries or in libraries with "rare-book" departments. Bibliographers sometimes locate important bibliographical evidence in small public libraries, and the librarians of those institutions should be aware of the fact that their actions, like those of "rare-book" librarians, ultimately affect the total store of bibliographical evidence available.

The relationship of original bindings to publishing history is easy to see; what is not as widely understood is the connection among

bindings, the sheets enclosed in the bindings, and the content of the sheets. In a rebound book, nothing can be trusted, because one cannot know what else has been altered in the process of rebinding. If, in a rebound copy, one finds some of the preliminaries—a map, a prefatory note, and an epigraph, for instance—in a different order from that encountered in any previously examined copy, one cannot immediately conclude that this copy represents a formerly unknown printing or state, because the preliminaries may have been shifted around by the binder (or may have reached the binder in the wrong order, if some of the leaves had become detached). Moreover, rebound copies are frequently sewn in such a way that it is impossible to open them far enough to determine how the gatherings were originally sewn.

Similarly, there are likely to be problems at the end of a rebound book, because one can never assume that any advertising matter will have been retained in the rebinding. Inserted advertisements (i.e. inserted by the original binder and not part of the sheets of text) are naturally of interest to the descriptive bibliographer as part of the physical book as issued. Advertisements which occupy the final pages of the last gathering of text (and which therefore went through the press with the text) may be of additional interest. For example, the existence of two printings of the last gathering of Melville's *Redburn* (1849) is revealed by the fact that in some copies this gathering consists of ten leaves, with seven of advertisements, and in others it is made up of twelve leaves, with nine of advertisements. The evidence of reimposition which the arrangement of these advertisements offers would be unavailable in rebound copies from which the advertisements had been excised. Integral advertisements can help to solve textual problems also: one example would be the case of two variant readings in the last gathering, the order of which could be determined only through the presence of a nonreversible textual or typographical difference in one of the advertisements. The librarian's disregard of advertisements springs from the belief that because they are not part of the *work* contained in a book they are therefore expendable; the bibliographer's concern with advertisements stems from the recognition that they are part of the *book* and may therefore have a bearing on the interpretation of the work it contains.

One result of the bibliographer's view is to point up some of the inconsistencies in the standard library cataloging codes. The librarian who directs the binder to leave out advertisements (or, for that matter, to throw away the covers of a paperback or a periodical) is

hardly to be blamed for thinking them unimportant when the catalog cards for the books do not take the advertisements into account in the first place. The *Anglo-American Cataloging Rules* (AACR)[17] and some prominent earlier codes direct that the statement of pagination should normally indicate the last numbered page of each numbered section; only if the pages containing advertisements are numbered, then, will they be recorded—and in such a case, AACR requires that a parenthetical indication of the number of pages of advertisements be added, presumably so that one will know that the actual work is not as long as the number of pages might imply. If the goal is to specify the extent of the work, however, it seems pointless to be concerned with what page numbers actually appear: just as nontext pages such as advertisements can be numbered, so, too, can a final text page be unnumbered—in fact, it frequently is. Recording the last numbered page is neither a satisfactory way of indicating the extent of a work nor an adequate means of accounting for the sheets of the physical book. The trouble with the code is that it reflects an indecisiveness as to whether the subject of the cataloging is the work or the book. A bibliographer is understandably puzzled to learn that a book described on a catalog card as having "230, [1] p." actually contains three more unnumbered pages of advertisements: puzzled because the notation seems to be concerned with physical details (carefully indicating which pages are numbered), and yet the 231st page is referred to only because it contains a checklist (a "bibliography")—in other words, only because of its special content (it would not have been mentioned if it had contained the end of the text instead). If the pagination statement were fully committed to indicating the extent of the work, at least it would not be misleading, even if it did not tell the bibliographer all he would like to know; as it stands, it is hardly more useful to the bibliographer, for it implies attention to physical details and then only partially records them.[18] The treatment of advertisements in library cataloging well illustrates the confusion that results when the relationship between books and works is not fully grasped.

Another area which is a source of trouble for both bibliographers and librarians is the treatment of dust jackets. "Rare-book" librarians retain the jackets that come their way, but the jackets for most books in the general stacks are discarded—or are kept on the books temporarily, not to preserve the jackets but to protect the books. However, the fact that jackets are not physically attached to books does not, from the bibliographer's point of view, mean that they are disposable. A jacket is a part of a book as it leaves the publisher, and the jacket

must be described by the bibliographer who is setting down the publishing history of a book and recording its physical features. Because so many jackets have been thrown away, bibliographers of late nineteenth-century or early twentieth-century books often find that they cannot locate even a single copy of jackets which they can be fairly certain once existed. Jackets are historical documents, and the historical record is so much the poorer as a result of the thoughtless destruction of great quantities of this class of material. Besides being artifacts of publishing history, jackets can be important in a number of ways. They may include blurbs written by well-known people; they may contain information about the author and the publication of the book which is not to be found within the book itself; they may be decorated with illustrations that appear nowhere else—indeed, they are pieces of graphic art.[19]

Many of these points are generally recognized, even by the librarians who discard jackets; but they go on discarding them, feeling overwhelmed by the idea of accumulating thousands of jackets, and perhaps also thinking that it is someone's else's business to preserve them. Actually, the task of storing jackets need not be burdensome: the fact that certain jackets exist can be noted on the catalog cards, and the jackets themselves can be filed in a vertical file, arranged by the call numbers of the books. I am glad to see that dealers are giving more attention to jackets in their catalogs and are charging considerably higher prices for copies of books in jackets.[20] A jacket is worth the extra expense, and the sooner this fact is widely understood, the better the chances that jackets will be routinely saved. In this respect as in others, there should be no great gulf between the practices of "rare-book" librarians and other librarians; all who are involved in the collection and preservation of books have a common responsibility.

The question of what to do with duplicate copies is another issue which has often in the past been a point of contention between bibliographers and librarians. The fact that books which seem to be duplicates may not really be so is well known—and has been at least since December 1911, when Falconer Madan spoke of "the duplicity of duplicates."[21] The bibliographer's fear has generally been that the librarian would dispose of a seeming duplicate without sufficient checking; indeed, it has often happened that two *issues* of a book are kept, because the difference shows up on the title page or some other prominent place, while two possibly more important *states* are not recognized, because the only difference may be a revision in the middle of the text.[22] The necessity for full textual collation of sup-

posed duplicates is by now, I think, commonly understood—if not always practiced—in connection with early books. It is surely no longer necessary to explain the scholarly value of keeping together the approximately seven dozen copies of the Shakespeare First Folio at the Folger Library, especially after Charlton Hinman's work,[23] which could hardly have been undertaken without that collection. What seems to be less well recognized, however, is that the principle involved applies to all books of any period. It may be that copies of a machine-produced book will not vary as frequently as copies of a book printed by hand, but differences do exist in them. (Broken types or plates, for example, often occur in some copies of an edition which seem indistinguishable in other respects, and this evidence may turn out to differentiate impressions.) No two physical objects are ever identical, even if they are intended to be, so in the strict sense there are never any duplicates. The crucial question, of course, is to decide what differences are significant enough to pay attention to—a question made particularly difficult by the fact that one can never know what details now regarded as insignificant may be shown in the future to be important.[24]

Perhaps the central point to be made about the bibliographer's approach to "duplicates" is that, whatever period he is dealing with, multiple copies are essential to his research. When a bibliographer sees several copies of a single edition on a shelf in the stacks, he does not see duplicates but rather independent physical objects, each with its own evidence to offer. If, after carefully examining five copies, he finds no differences, textual or otherwise, his time has not been wasted: any statement he now makes about the book will be based on more evidence than would have been the case if he had examined only one copy. Bibliographers and editors always need to see as many copies of a book as they feasibly can because, as in any inductive investigation, new evidence may turn up at any moment invalidating conclusions drawn on the basis of the previously known evidence. When copies of a book are standing side by side, there is the chance that certain differences will become noticeable which one might otherwise never have thought to make notes on and to check in separated copies. When I find in a bookstore two copies of a book exhibiting such differences, I frequently buy them in order to preserve the bibliographical evidence; I am thus in the position of purchasing "duplicates" of a book that I would not have bought in only a single copy. In bookstores with large sections of used fiction, there are generally entire shelves of copies of certain bestsellers; I

have found that the simple process of looking at each of these copies can reveal a considerable amount about the publishing history of the books involved. Many public libraries have a similar situation in their stacks—copious quantities of old bestsellers, no longer in demand. The need for space may dictate that they be discarded, but no librarian should take this action without weighing in the balance what will be lost. To the bibliographer, whether one is disposing of a "duplicate" Elizabethan quarto (for the money it will bring) or a bestseller of 1934 (for the space it will vacate), the theoretical considerations are the same. The action taken, to be sure, may finally rest on practical grounds; but if it is to be an informed action, it must always take into account the fact that for bibliographical research there is no substitute for a group of copies in one location. Furthermore, bibliographical research may take place in libraries that are not generally thought of as research libraries. The physical books, after all, are the primary evidence the bibliographer works with, and he is therefore interested in any assemblage of books; no matter how remote or obscure the library, some bibliographer will find his way to it and will discover significant bibliographical evidence there.

The same line of thinking dictates the bibliographer's attitude toward later printings and editions (that is, "nonfirsts"): they constitute part of the evidence for the history of a particular edition (or of the editions of a particular work), and they, as well as the "firsts," must be examined. The traditions of book collecting have stressed the importance of "first editions" (meaning first printings), with the result that many copies of first printings have been saved (frequently for their supposed monetary value) and many copies of later printings discarded (because there was little market for them—except as "reading" copies, regarded as replaceable when worn out by other "reading" copies of any edition). For this reason, it is now much easier to find copies of first printings of certain books than it is to locate copies of later printings, as CEAA editors have repeatedly discovered. Copies of the first American impression of *Moby-Dick* (1851), which obviously command a high price, are available in a large number of "rare-book" collections; but the Melville editors had difficulty finding copies of the 1871 printing, the last printing from the original American plates. Yet for bibliographical and editorial work, the 1871 copies are as much of a necessity as the 1851 copies; they represent one stage in the history of that edition, and the text of the 1871 printing must be collated against that of the 1851 printing in order to determine whether any changes occurred during the course of the four print-

ings from these plates. Because libraries have acquired their "rare books" from private collectors or have followed the same traditions in their own collecting, there are few libraries which possess long runs of successive printings of important editions. One of the valuable by-products of the CEAA has been the building up of such collections (like the Melville Collection at the Newberry Library), and this process in turn has given some publicity to the idea that later printings are worth collecting.

As far as early books are concerned, the collecting of later printings is nothing new: all *Short-Title Catalogue* (STC) and Wing books, and not just the "firsts," are regularly searched for. One reason is simply that their age causes them to be of interest as physical objects to many people other than bibliographers; but another reason is that later printings from this period are likely to be in fact later editions (because it was not generally feasible to keep type standing), and the potential textual significance of different editions is more readily seen than that of different impressions. However, when one gets to the eighteenth century, where printings from standing type frequently occur, and the nineteenth and twentieth centuries, where plates and photographic processes give still longer life to a single typesetting, one finds that there has been much less interest in the assembling of later printings and even of later editions. Obviously any printing or edition during an author's lifetime is of potential textual value, and printings and editions made after his death are still part of the history of the author's reputation and influence (and may sometimes make use of authoritative documents). Ideally, an author collection should contain multiple copies of every printing of every edition, down to the latest printing of the latest paperback. Some private and institutional collections of this kind do exist, but it is naturally not possible for most persons or institutions to undertake this kind of collecting for large numbers of authors. The point is that an understanding of the value of later printings and editions can have an impact on the librarian's decisions in two kinds of situations. First, if a library already has certain outstanding special collections or is presently attempting to build up some significant collections, the librarian with this understanding will be in a position to decide intelligently whether the collecting policy should require the acquisition of later printings and editions. It is surprising, and distressing, to see how many research libraries continue to neglect later printings and editions of nineteenth- and twentieth-century books in otherwise impressively administered collections. Second, there is the common situation in

which the stacks contain many random copies of later printings and editions; even though they are not part of a detailed special collection, they may be of considerable bibliographical value, if the bibliographer knows they are there. The bibliographically informed librarian not only will retain these copies (realizing that they do not constitute an unnecessary duplication of texts) but will also see that they are reported to the *National Union Catalog*. My own recent experience in trying to locate copies of abridged editions of *Moby-Dick* has underscored the point that some books—even from the last few decades—are extremely difficult, or practically impossible, to locate because they fall into classes which have traditionally been regarded as unimportant. Late printings and editions are not yet high on many collectors' lists, but their value is increasingly being recognized, and no librarian should hesitate to give serious attention to such seemingly unglamorous items.[25]

None of these points will be unexpected to anyone who thoroughly understands the bibliographical approach to books. It is unfortunate that bibliographers and librarians have not always seen eye to eye on these matters in the past, for the two groups should be working together toward the same goals. As Arthur Brown has recently pointed out, the librarian is at the center of the whole process of the preservation and dissemination of texts and therefore cannot avoid being a bibliographer.[26] The librarian is like the curator of a museum, for both have been entrusted with a collection of artifacts by means of which the culture of the past can be examined in the present. The objects in the museum, like those in the library, are used for study; but the curator of a museum—even of a small one which is not primarily a research institution—takes pains to preserve the physical appearance and makeup of the objects in its collection, whereas the average librarians are likely to think of their duty as pertaining only to the texts contained in the books. When an object does not display any words or writing, it is easier to see that form and content are one and that the form cannot be altered without changing what the object communicates to us. Books, which are undeniably human artifacts, contain words, however; and because the same words can be printed on different physical backgrounds, people tend to think that the message conveyed is independent of the vehicle carrying the words. Even if that were true, it would be no reason to neglect the books as physical objects; nevertheless, the history of the transmission of texts shows conclusively that the content of texts is affected by the me-

chanical processes of transmitting them. Some books contain works which could be regarded on occasion as intellectually unimportant, but those same books are of interest in their own right as examples of the bookmaking techniques of a given time and place. The knowledge of bookmaking derived from them can therefore be applied to the study of texts judged to be more important. Every library, of whatever kind, possesses a stock of artifacts relevant to the investigation of man's intellectual development. What the bibliographer therefore asks of all librarians—not just "rare-book" librarians—is to recognize that a serious concern with the printed word can be effective only if it is supported by a respect for books as physical objects.

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11. In a recording or recitation, of course, spelling and punctuation would not usually be specifically indicated.

12. An *edition* consists of all copies produced from the same setting of type; an *impression* (or printing) consists of all copies of an edition printed at one time. *See* Bowers, Fredson. *Principles of Bibliographical Description.* Princeton, Princeton University Press, 1949, pp. 37, 39; and Tanselle, G. Thomas. "The Bibliographical Concepts of *Issue* and *State*," *Papers of the Bibliographical Society of America* 69:18-21 [First Quarter] 1975.

13. Even photographic copies can vary: variations in inking or foreign matter on the photographed surface, for instance, can make the text illegible or appear to read differently.

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16. Bindings may also preserve presentation inscriptions and other indications of former ownership, which in turn can sometimes be important in evaluating bibliographical and textual evidence. *See* Adams, Frederick B., Jr. *The Uses of Provenance.* Berkeley and Los Angeles, University of California, 1969.

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25. Perhaps a word should be added about a situation which is in one sense the opposite: a case where earlier editions, rather than later ones, are routinely neglected. In their treatment of reference books, many librarians, even in "research" libraries, regularly retain only the latest editions. But earlier editions serve many purposes in historical research, and the bibliographer, being a historian, frequently needs superseded editions of bibliographical reference works. It is an unfortunate fact, however, that libraries with generally good bibliographical holdings do not always see the value of devoting space to back runs of such works as the *Publishers' Trade List Annual, Books in Print,* or volumes of the *Cumulative Book Index* which have been superseded by larger cumulations.

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The Research Uses of Visual Information

ESTELLE JUSSIM

As it is being used in a specific and possibly novel way for the purposes of this article, the term *visual information* may be unfamiliar to the reader. Increasingly a part of the vocabulary of visual anthropologists and social historians, whose research concerns will be examined in this paper, it is not yet in common usage among librarians or curators of visual collections. It is to be hoped, however, that the term will be adopted by the information profession at large as we seek to identify major new areas of research dependent largely upon nonverbal documents and to decide which forms of visual information will be increasingly demanded for scholarly and scientific use.

While the term *visual communication* is widely recognized, the term *visual information* more accurately represents the idea of "the visual content of documents" (in whatever medium) and less that of the process implied in communication, with all its complexities. "Visual information" might be correctly defined as a subset of visual communication, as it refers to the visual document itself rather than to purposes, social interactions, context, or other variables of the larger process. By no means the exclusive focus of communications specialists, visual information is presently serving a significant array of other scientific pursuits.

All of us are familiar with the general picture file, and we therefore know that, on its most basic level, visual information involves a picture of something. This article will attempt to present the ways in which contemporary social and natural sciences, as well as the applied arts, are proceeding far beyond the capacity of a picture. The general picture file, as typically maintained in a few major public and research libraries, is often a haphazard collection of individual reproductions clipped from magazines, books, or newspapers—haphazard because

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the collection is simply what the picture librarian recognizes as being potentially valuable to advertising clients, all varieties of historians and publishers, artists and illustrators, occasionally to writers and students, or to members of the general public impelled by special and often unpredictable concerns. The picture files of the public library, like the exceptionally extensive picture morgues of publishers such as Time-Life, are essentially collections of single pictures of *something*—an armadillo, the house in which Lee Harvey Oswald lived, the military costumes of nineteenth-century French Zouaves, Sarah Bernhardt's pet leopard, Jane Fonda as Barbarella, the handwriting of Franklin Roosevelt, or simply a reproduction of a painting like *The Blue Boy*. Probably the most frequent use of such items is yet another publication if copyright permits, or perhaps as a means of identifying avenues of further search. Thus the visual information of general picture files is contained in the content of single still pictures which often serve as illustrations to verbal narratives, usually with identifying legends, e.g., "Jesse James at age 14."

The problems of maintaining such general files are described by Ellen Shaffer, presently curator of the Silverado Museum (St. Helena, Calif.) and previously for many years the head of the Rare Books Department, Free Library of Philadelphia:

> For the keeper of files it is essential to view all material objectively. All of us are far too prone to regard what interests us as of prime importance—what does not is worthy of scant consideration. However, what is one man's trash is another man's treasure, and one needs to be all-inclusive. In these days of a super abundance of material . . . it is necessary to be both inclusive and selective—a tightrope which is indeed difficult to negotiate.[1]

The importance of inclusiveness as she notes, is that "even a random ramble through files of visual material often turns up a long-sought-for fact."[2] It is this idea of randomness which is the essence of the general picture file, with both positive and negative implications.

Search, not research, is the customary and perfectly legitimate primary use of the general picture file. Unlike research, which is usually the investigation of the relationship between two or more variables, a search simply accomplishes the finding of a wanted item. The visual information being sought represents a one-time need, unrelated to any scientific structure of investigation.

The next level of visual information might be said to reside in the specialized collection, or organized either according to *medium*—e.g.,

the still photography or film collections at the International Museum of Photography (Rochester, N.Y.), or at the Museum of Modern Art in New York City—or, according to *subject*—e.g., the Library of Congress Map Division or the Lincoln Center Drama and Music Library's collection of dance photographs and prints. The expectation is that such a collection of visual records, while comprised essentially of individual images, provides the entire universe (or as much of it as possible) of images relating to that form or subject: all the photographs taken by the geographic surveys of the American West, all the stereographs of Niagara Falls ever produced, all of Mathew Brady's portraits, all films before 1916 produced in France, a complete chronological progression of early views of Venice and its lagoons, all lithographed music score covers of 1870 to 1880, all specimens of Victorian wood types manufactured in Hartford, Conn., or all pictures taken of the moon before and after space exploration.

It is at this point that research may be said to become possible, as what is ordinarily needed to solve a problem is a sufficient quantity of information to permit generalizations. Individual visual records, acquired comprehensively, extensively, and according to plan, can provide sufficient visual information to permit the verification of hypotheses about the nature of various phenomena, e.g., the impact of the photographic technologies on the graphic arts;[3] the cultural differences between presentations of women in English, French and German films;[4] or the social conditions of the Bowery in the 1890s.[5] The essential assumption of this type of research is that history is not a compilation of unique events for which unique visual records exist, but rather is a normative phenomenon for which the quantitative evaluation of the content of large numbers of visual records may provide visual evidence.

This quantitative approach pervades humanistic studies as well as those in sociological or technological areas. In discussing the shift from the traditional interest in illustrational technique to interest in the content of illustration, Kenneth Lohf writes:

> As in the case of nineteenth-century English book and periodical illustration, we as students, scholars, collectors and librarians have become more involved in the conditions of society and life which were depicted. . . . The illustrators of the works of Dickens, Thackeray and Trollope teach us much about the English customs and conditions fictionalized in the stories and novels which they complement. One will continue to return to them for study, not

> only because they are depictions of past times, but also because they provide a richer and more profound understanding of the great works of literature.[6]

To verify the content of the illustrations, such social interpretation undoubtedly requires the support of other records, both verbal and visual. This type of investigation, involving substantial collections of visual materials, is becoming widespread. (For example, William Katz is currently investigating the social implications of magazine illustration.[7]) It is not the single image, then, but large aggregates of associated images which are required for certain types of historical explanations undertaken in the spirit of the scientific method.

The substantial difference between the exploration of already existing visual records, whether single or in aggregate, and the new uses of visual information is revealed by tracing the development of a particular type of scientific investigation, that of human and animal movement and expression.

In order to write *The Expression of the Emotions in Man and Animals*, published in 1873, Charles Darwin took the precaution of studying every book, painting, drawing, diagram, and engraving that he could find on the subject. He came to the not-unexpected conclusion that much nonsense had been promulgated prior to the invention of photography, especially photography swift enough to capture ephemeral muscular contractions:

> When we witness any deep emotions, our sympathy is so strongly excited, that close observation is forgotten or rendered almost impossible. . . .Our imagination is another and more serious source of error; for if from the nature of the circumstances we expect to see any expression, we readily imagine its presence.[8]

Darwin therefore refused to trust purely verbal records or sketches, and not only borrowed photographs of facial and bodily expressions from his colleagues, but had wood engravings prepared with the aid of photography.

At approximately the same time, and continuing into the 1880s, photographer Edweard Muybridge was in the process of trying to solve the puzzle of animal locomotion in the study of horses. It was not until he invented a special camera shutter "designed to give an exposure as short as 1/1000th of a second"[9] that he was able to demonstrate that a horse actually lifted all four feet from the ground during one phase of the gallop. Following the prior inventions of an

astronomer who had succeeded in taking photographs of the transit of the planet Venus, the French physiologist Etienne-Jules Marey developed a photographic gun which permitted recording a seagull's flight at exposures of 1/720th of a second. Ultimately, he stopped motion at exposure times of 1/5000th of a second.[10]

In a fascinating series of events, the need for the scientific investigation of animal and human motion and expression led to the invention of the motion picture camera and the projector as the only suitable mechanisms for the study of sequences of a character sufficiently finite to elude the most expert human eye. The requirement for visual information instigated the development of successful technologies which today comprise the major medium for the continuing exploration of physical realities in both micro- and macro-modalities. As in the experience of Darwin, Muybridge, and Marey, the camera is today the primary tool for the investigation of physiological and psychological phenomena. A typical example is the film *Benjamin*, recently screened over public television, which demonstrated how intensive the use of the camera is by biological scientists. Benjamin was an infant whose responses to various stimuli were studied through camera techniques devised especially for the accumulation of visual information concerning the development of eye and muscle coordination. It was only the meticulous analysis of slow motion and single frames of stopped motion pictures that resolved several crucial questions about infant abilities.

Rather than fostering a dependence on photographs or films already produced by either amateurs or professionals, current education in both physical and cultural anthropology insists that the methodological preparation of the student must include the acquisition of motion and still photography skills, in the belief that the camera provides unique access to phenomena. The methodology, and the philosophy which supports it, are perfectly exemplified by the activities of the Society for the Anthropology of Visual Communication, an outgrowth of the Program of Ethnological Film begun in 1966. The society's statement of purpose articulates well the expansion of scholarly and scientific interest into all aspects of visual information:

> The purpose of the Society for the Anthropology of Visual Communication (SAVICOM) is to bring together and support researchers, scholars, and practitioners who are studying human behavior in context through visual means and who are interested

in: the study, use, and production of anthropological films and photography for research and teaching; the analysis of visual symbolic forms from a cultural-historian framework; visual theories, technologies and methodologies for recording and analyzing behavior and the relationships between the different modes of communication; the analysis of the structuring of reality as evidenced by visual productions and artifacts; the cross-cultural study of art and artifacts from a social, cultural, historical, and aesthetic point of view; the relationship of cultural and visual perception; the study of the forms of social organization surrounding the planning, production, and use of visual symbolic forms.[11]

Such a comprehensive statement of purposes represents the predominant contemporary approach to visual information, no longer to be encountered in the individual fragments of a general picture file, nor even in the massive aggregates of special visual collections, but as both a tool of scientific investigation and its product. Thus, contemporary psychiatric practice frequently makes use of videotape for video feedback to individuals or generated by group interaction. Often these videotape sessions become part of permanent files, serving as the core of an expanding collection of human behavioral records. Educators permit their classroom activities to be videotaped for further study; actors, athletes and dancers practice with videotape and use videotape instructional units.

All of those human behaviors which involve kinesthetic, kinetic, and nonverbal activities are now being recorded for the sake of the study and restudy of visual information concerning the relationship of structure to motion, culture to gesture, micro-act to ideology. For example, videotapes of court cases, made by special permission, were studied at Hampshire College (Amherst, Mass.) for differences in the ways prosecutors behaved toward white defendants and toward black defendants. This investigation attempted to develop a hypothesis concerning the acts of so-called "micro-aggression" toward black or poor defendants. The tapes were repeatedly played back through a monitor and stopped at individual frames for inspection; micro-acts consisting of minute gestures, approaches or withdrawals, facial expressions, or use of props were defined by several methods of content analysis.

The science of proxemics (i.e. the study of the culturally determined relational positions of individuals within a particular society)

established by Edward Hall, author of *The Silent Language* and *The Hidden Dimension*, is extensively based upon photography, computer programs and special methodologies of observation.[12] As Edward Sapir observed, "we respond to gestures with an extreme alertness and, one might almost say, in accordance with an elaborate and secret code that is written nowhere, known by none, and understood by all."[13] It is this secret code, rich with cultural meanings, that both Hall and Ray Birdwhistell have been attempting to analyze and elucidate, each by using his own system of kinesics.[14] Semanticists, communications specialists and psychiatrists are increasingly attempting to codify the visual information contained in what Birdwhistell calls "a structural system of significant symbols (from all the sensorily based modalities) which permit ordered human interaction."[15] It is exactly as Charles Darwin wondered one hundred years ago: whether "the same expressions and gestures prevail, as has often been asserted without much evidence, with all the races of mankind, especially with those who have associated but little with Europeans."[16] In order to help us to understand other people and overcome the limitations of our ethnocentrism, research scientists require increasingly specific visual resources of considerable sophistication. Their findings are summarized for the general public in documentary films and illustrated books.

The ethnological study of rare human experience is not the sole preoccupation of the Society for the Anthropology of Visual Communication or of its members. According to an article by Jay Ruby and Richard Chalfen concerning the extensive curriculum of visual anthropology at Temple University,

> Visual anthropology should be conceptualized broadly enough to include, (1) the study of human nonlinguistic forms of communication which typically involves some visual technology for data collecting and analysis, (2) the study of visual products, such as films, as communicative activity and as a datum of culture amenable to ethnographic analysis, and (3) the use of visual media for the presentation of data and research findings—data and findings that otherwise remain verbally unrealized.[17]

We have already discussed some aspects of their first category. The second category—the study of visual artifacts—involves not only ethnographic analysis, but the even older method of archaeological survey, using films as artifacts produced by specific cultures. The notion of film as history is comparatively new; it stresses the inves-

tigation of the characteristics of feature films, not as films about history, but rather as carriers of the culture which produced them, enjoyed them, and praised or condemned them.[18] Two years ago, Harvard University initiated a program of "film as history," using films about or produced during the Great Depression. This method of approaching history seems sure to be increasingly utilized, and clearly requires massive aggregates of films well preserved in organized archives.

Of special concern to librarians and visual archivists should be the new breed of documentarians who regard film as primary source material to be produced for scientific purposes. From a recent statement by a team of two filmmakers who epitomize this interesting and valuable new trend, we read the manifesto of E. J. Vaughn and John Schott (cofounders of Document/CB, New York):

> We conceive of ourselves as creative historians working in the film medium. Emerging from academic training in American culture, Art History and Photographic History, we are convinced that the "reality recording" techniques of Information Film offer a fundamentally new approach to social documentation and unprecedented possibilities for wide dissemination.[19]

Their first major film exploring this technique was *America's Pop Collector: Robert C. Scull—Contemporary Art at Auction*, a 72-minute color documentary on a pivotal event in the social history of American art. Using the noninterventionist and presentational mode of two-man teamwork—which also characterizes the work of Albert and David Maysles (producers of *Salesman, Primary, Gimme Shelter* and *Grey Gardens*), and which makes no verbal editorial commentary on what is visually happening—Vaughn and Schott are now working on a "reality recording" of the backstage activities of one of the most influential of all television programs, "Let's Make a Deal." They believe that they "are creating images of contemporary history which will be referred to constantly in the future by both the academic and lay communities."[20] Thus, there will be an increasing number of film documents providing access to major aspects of American culture. These films, especially produced for visual information purposes by companies like Document/CB, will prove to be among the major sociological and historical elements of the archives of the future.

Problems of copyright concerning items such as these will have to be solved, as is vividly elucidated by Daniel Bell in *The Coming of Post-Industrial Society*.[21] These problems will result as knowledge may

tend to move from the status of private property to an as yet unexpected and unwelcomed communality of interests. The counterculture has, of course, long demanded solution of the copyright situation. According to an interview with Michael Shamberg of Raindance and David Cort of Videofreex, this new generation of television producers wants to replace the monopolies of the mass broadcast media with networks of information.[22] While it is difficult to pinpoint the concrete economic realities of some of Shamberg's statements, it is clear that he, like many of his video colleagues, believes that visual information should be a public commodity. The videotapes made by these individuals are often difficult to collect, as they have an animus against the concept of property (and indeed, believe that television is so unique a medium that it defies any attempt at permanence). They do not view their tape production as properties but rather as "processes." It would nevertheless seem of inestimable value to the understanding of the counterculture if the visual record of what they consider to be important events, and their approaches to recording these events, could be made available to historians, sociologists and social psychologists.

Obviously, research into the nature of visual forms themselves, and their applications to everything from architectural structures to bionic possibilities, depends on a tremendous variety of visual documents. The visual information contained in such documents assists mathematicians like Stanislaw Ulam, codiscoverer of the principles of thermonuclear weapons, to investigate the modular properties of natural forms and their relationship to geometrical progressions.[23] Auxology, the study of the growth of biological forms, utilizes the computer and the electron microscope as well as the normal photograph from nature and reveals sometimes startling analogies among such forms as Islamic ceiling vaulting, an array of sunflower seeds, the organization of virus protoplasm, and the mathematic audacity of Buckminster Fuller's geodesic domes.

Architects and designers of our environment increasingly seek visual documentation, depending largely upon computer cathode displays for the preliminary investigation of their ideas. Computers can be programmed to provide a display of the basic dimensions of, for example, an urban shopping mall, manipulating that data into the construction of visual diagrams which show how the mall will look in three-dimensional projection, from above, from the sides, and as the pedestrian would view the walkways, spaces, and buildings. If the profit factor in computer use could somehow be minimized, it would

clearly be of tremendous value to urban studies faculties to be able to study films recording such manipulations. Research in visual forms could proceed most efficiently from the ready availability of visual information in all media. At present, research into various aspects of safety requirements for human environments proceeds through models, visual projections, and heavy dependence on the computer to analyze flows of activity (e.g., in Dennis Crompton's idea of "Computer City").[24]

If it is true, as Rudolf Arnheim believes, that "artistic activity is a form of reasoning, in which perceiving and thinking are indivisibly intertwined,"[25] or, as Théodule Ribot indicated, that "the logic of images is the prime mover of constructive imagination,"[26] then the study of visual forms is clearly not to be confined to the visual artist alone, nor even to the scientist dependent on visual documentation of phenomena. If research is to be linked to creativity, then perhaps the human brain itself must remain a primary synthesizer of images, rather than the computer. In pursuing new knowledge in any field where seeming contradictions must be reconciled or recombined, the ability to visualize is crucial. Among other philosophers, Henri Bergson indicated that creative intuition operates as a kind of visual thinking which can accomplish the reconciliation of opposites, creating new forms out of their coexistence in time and space. Bergson advises his readers "to visualize such incompatible things occupying the same place within the visual field, things which in the commonsense view would drive each other away."[27]

Precisely this kind of freewheeling imagination is pursued by the studio artist and applied designer. Anyone connected with visual research in design and fine arts libraries will recognize the difference between the needs of studio artists and those of art historians. Wrestling with problems of imagery, the artist is looking for a nonverbal inspiration, wanting above all to have discrete units to inspect which might satisfy the requirements of a concept. It was to satisfy this need that Bernard Karpel began to persuade librarians to consider what he calls "the documentation of the visible"[28] through the card catalog itself. He suggests: (1) an image entry on the card; (2) a descriptive reference based on the material and technique of the object; (3) an evaluative annotation which may also take the form of description; and (4) a fresh semantic, that is, terminology taken from the language of art theory as spoken by the maker, the critic, the historian, the psychologist, and the educator of art, instead of the classification schemes of the traditional print-oriented library.

The following are headings which Karpel derived from the language of art theory, all for a one-page announcement containing a drawing by José Luis Cuevas:

> Drawing, pen-and-ink . . . Drawing, rectilinear . . . Figure-Ground, Drawing . . . Figure-Ground, through Unit Organization . . . Interval, Increasing-Decreasing . . . Line, through Edge . . . Movement, Figure-Ground . . . Movement, Two-Dimensional . . . Perspective, through Figure-Ground . . . Shape, Geometric . . . Shape, Rectilinear . . . Spatial Organization, Expansion-Contraction . . . Spatial Organization, through Planes . . . Spatial Organization, through Transparency . . . Spatial Organization through Variation of Scale.[29]

We can extrapolate from this the immense variety of nonverbal forms requiring verbal access, at least until such time as the artist, designer, and scientist can sit down at computer terminals providing some type of access directly to visual elements.

The studio artist, the designer of our environment, the architect, and the urban planner all require multitudes of visual images. For spatial description alone, the variety is only hinted at by this impressive list by László Moholy-Nagy in *The New Vision:*

> mathematical, physical, geometric, Euclidean, non-Euclidean, architectural, pictorial, dance, scenic, spherical, crystalline, cubic, hyperbolic, parabolic, elliptical, bodily, surface, lineal, one-dimensional, two-dimensional, three-dimensional, n-dimensional, isotropic, topographic, projective, metric, homogeneous, relative, absolute, fictive, abstract, imaginary, finite, infinite, limitless, universal, etheric, inner, outer, hollow, vacuum, formal.[30]

What happens when to this list are added the myriad combinations of textures (jagged, smooth, hard, fuzzy) or colors (like pinkish-green, orange-yellow, or lavendar-grey) can only be conjectured in terms of providing access. Few would dispute the necessity of developing a flexible, multidimensional verbal system to assist research into visual forms.

The gigantic multiplication of visual forms in this century of photographic, motion picture, and now holographic technologies requires an equal multiplication of verbal discussion and critical print analysis. As many students of documents recognize, print itself is a carrier of information beyond the content of the sounds of its individual letters. The visual aspect of print contains visual informa-

tion as diverse as the emotional stimulus of the specific letter forms and the historiographic precision which permitted government prosecutors of Alger Hiss to summon evidence based on the specificity of his typewriter's alphabet, or scholars to expose a forger like Thomas Wise in the production of rare booklets for profit. The letter forms of print, each typographic font, carry with them idiosyncratic evidence of their time, place, manufacturer, and designer. Research into the history of particular documents, therefore, still requires large libraries of identified letter forms and their origins, purely as visual artifacts.

The medical profession has perhaps relied longest on the accurate transmission of visual information. Lancelot Hogben, one of the pioneer historians of visual information, observed that it was the perfection of the drawings by one of Titian's pupils which made the great treatise by Vesalius in 1543 "a milestone in the history of medicine":

> Had the *De Humani Corporis Fabrica* appeared without illustration. . .generations of students and commentators might have found substance for endless disputation concerning the author's meaning. . . .Authors and disciples could no longer hide ignorance behind a mask of verbal ambiguity.[31]

Today's medical practitioners take for granted not only education but research through visual means, from the electron microscope camera to the complexities of the liver scan. Like the astronomers who search out the face of the planet Mars using computer analysis of lights and darks to relay visual information back to Earth, contemporary medicine has formed a most productive research relationship with the camera and its attendant new technologies.

Perhaps the most unusual type of visual information is that which provides proof of the existence of new atomic and subatomic particles. In this area of research, the only document which the nuclear physicist retains is a photograph of the passage of a particle which leaves its track of light on film for an infinitesimally brief moment. Here visual information is the substance of the research; the indirect method, so frequently the handmaiden of physical sciences, relies almost exclusively on some type of graphic evidence.

There are, however, certain types of information which cannot be transmitted through visual images of any kind. A glance at the illustrated encyclopedia of technology *The Way Things Work*[32] reveals

some of these problems. An example of this is the sentence: "As long ago as 1664 the English scientist Robert Hooke occupied himself with the question how silk filament might be produced without the intervention of silkworms";[33] there is no method known to our society by which this kind of complex, historico-semantic abstraction can be communicated with pictures. Earlier in the encyclopedia, one finds a different kind of sentence: "The central feature of a steelworks using this process is the open hearth-furnace."[34] The diagram of the intricacies of an open hearth furnace which accompanies this sentence is welcome indeed; as a simple diagram, it answers the question of search, not research.

Both search and research may be dramatically assisted by new developments in text-fiche. The University of Chicago Press, for example, is beginning an extensive program of publishing text-and-fiche combinations where small, lightweight, and economical texts will accompany 4 x 6 inch cards containing up to eighty-four illustrations each, in both color and black and white, and viewable on desktop machines. Both in the sciences and in the arts, the publisher remarks that: "Many museums have far more of their total collection in storage than they have on display. Text-fiche publications of special collections. . .could rescue seldom seen collections from obscurity."[35]

We might observe that if research is no longer to be published exclusively in print form, but rather in visual forms used both to generate evidence and to document findings, then the information profession clearly must develop systems of managing visual information. This article will have indicated that it is long past the time for librarians and archivists to set aside the often nonsensical quibble about "words versus images." Words and images each have their own unique characteristics and their own ambiguities. Meanwhile, the multitudinous and energetic practitioners of contemporary social, scientific and artistic research drive on toward increasingly imaginative uses of visual information obtained through the use of the still picture, the motion picture, and the videorecording. It is no longer a matter of whether or not one picture is worth a thousand words, but rather of an almost complete revolution in the demands of human inquiry. The important question is whether or not the information profession can learn how to control, manage, store, retrieve and disseminate the complex aggregates, the technological forms and the new access modes required for important research which both demands and produces visual information.

In observing that, in every branch of knowledge and learning as well as in the application of information, the visual has become as important as the verbal, Kenneth Shaffer stated the matter plainly:

> We have to shift gears mentally. We have to begin to share the experiences of one branch of research with the applications and organizational tools of others. A considerable alteration of professional attitudes and a considerable expansion of professional education will undoubtedly be required in response to the new challenges of visual information.[36]

The complete rethinking of library buildings designed to accommodate these new challenges will undoubtedly require research into some of the very types of visual information which this article has described.

To encourage us to make the needed transformation, we should keep clearly in mind how ancient is the human preoccupation with the visual image, and how, in the inspiring words of Sir Herbert Read, "man's first instinctive response to any challenge from across the threshold of knowledge, from the numinous void, is to strive to make it evident to the senses, visibly and haptically."[37]

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The Wayward Scholar: Resources and Research in Popular Culture

GORDON STEVENSON

WHO ELSE BUT Archie Bunker, the star of the popular television show "All in the Family," could supply just the right touch with which to begin a serious discussion of popular culture, especially one addressed to an academic readership which is largely dedicated to the preservation of high culture? Archie is anti-intellectual, ultraconservative, uncultured, and dogmatic. He is narrow-minded and prejudiced, he is the victim of a mean little world over which he has no control, and he has no sense of history whatsoever. It is to change the behavior of the real-life counterparts of this strange, angry man that we have constructed an expensive, complex and exceedingly vast system of education, and included in this system an equally vast subsystem of libraries. Archie Bunker, in other words, is the enemy. His wit and wisdom are quintessential pop culture of the most blatant variety. Among his numerous memorable utterances, I found this gem: "I didn't insult the Defense Attorney. I just told him what I thought of pinko, bleeding-heart lawyers who get sentimental over killers."[1]

There is no doubt that many of my readers are firmly convinced that, figuratively speaking, popular culture is killing traditional values and ideologies, and there is no point in denying that there is something to be said for that line of reasoning. Furthermore, some of its byproducts may be having a murderous impact, literally, on a whole generation of America's young people—at least this seems to be one interpretation of the evidence of recent research on the effects of media violence.[2] I will not, therefore, get sentimental over all popular culture—just some of it. But I will defend it as a legitimate and important library resource, conceding at the start that most of what

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Norman Lear's bigoted, lower-class antihero has to say about the human condition is in atrociously bad taste; so is much popular culture, even some of the best of it. Who, then, might be interested in Archie's messages and their impact on society and its culture? I should think that he and the culture he represents have at least some implications for students and scholars of the following fields: social anthropology, political science, psychology, education, the mass media, social theory and cultural criticism, sociology of work and leisure, language, literature and drama, and advertising and marketing.

Lest some of this seem a bit farfetched, note that a fair number of sociologists and psychologists are interested in the nature and effects of humor;[3] that political scientists are beginning to deal with the language of politics "as she is spoken" and documented in popular culture artifacts;[4] that anthropologists, although they have not lost interest in Samoa and New Guinea, are turning also to contemporary cultures in complex industrialized communities (including the United States). In developing their system of monitoring society with cultural indicators, George Gerbner and his colleagues at the Annenberg School of Communications use television content as a basic source of data.[5] Students of nonverbal communications (which has developed rapidly into a major subdiscipline) will find in television a rich source of data, for this medium raises fascinating questions about the learning of behavior. There may be yet other disciplines which have reason to be concerned somehow with Archie's life and times, e.g., students of black studies, women's studies, and perhaps even of theology, for at least one book—a popular one—has been written about the theology of Bunkerism.[6] But why might librarians be interested?

Whatever reasons are given for the existence of libraries, no one to my knowledge has ever argued that they exist in order to perpetuate bad taste, to preserve the mediocre and the worst of society's intellectual and artistic endeavors, or to undermine the foundations of Western civilization. It is quite unthinkable that the cultural objectives of the library would include the promotion of mental illness and moral decay. These are some of the more frightening effects widely attributed to much of that large mass of books, periodicals, sound recordings, films, and television shows which is annually consumed by the American public. Because of their real or imagined antisocial consequences, because they seem to be quite ephemeral, and especially because the quality of their intellectual content is thought to be far below standards suitable for any respectable academic institution,

few librarians have gone out of their way to collect systematically such resources as comic books, big-little books, confession magazines, paperback thrillers, recordings of country and western music, bumper stickers, bubblegum cards, recordings of radio soap operas, tapes of popular television shows, fanzines, or Polish jokes.

One simply does not expect to find the *oeuvres complètes* of even such seminal figures as Elvis Presley or Gene Autry in a major academic library. It is some measure of where we stand that even the idea of finding them in an academic library strikes one as amusing. One would also be at least mildly taken aback to find, for instance, a complete—or even selective—set of recordings of the original radio broadcasts of the "Lone Ranger." The average music bibliographer could not care less who plays third trumpet on Fletcher Henderson's 1925 recording of "Sugar Foot Stomp,"[7] no matter how highly the artistry of this musician may be treasured by a jazz historian. The loftier aims of libraries notwithstanding, one suspects that the reason we do not acquire these kinds of things is the pragmatic one that the audiences we serve have not asked for them in any significant quantity, if at all.

Complaints from the academic community about current library policies in these matters do not seem to be very numerous or particularly serious, although the following remarks of Leslie Fiedler may portend a more vigorous evaluation of our conventional ways of doing things:

> Initially, men of good will, at least, read or listened to all song and story before thus classifying it [in terms of status and audience]. But we have reached a point at which some among us aspire to ghettoize certain writers, certain books, certain whole sub-genres of the novel before reading them. Indeed, in a world where division of labour and delegation of responsibility have been carried to absurd extremes, certain professionals and sub-professionals have been trained to do that job for the rest of us. In the United States, for instance, and elsewhere I suspect, librarians have learned to relegate some books, as they arrive at the order desk to ghettostacks as "Juveniles," "Teen-Age Fiction," "Detective Stories," "Westerns," "Science Fiction"—or to a super-Ghetto, locked and guarded, as "Pornography.". . . Finally, there are more marginal fictions which do not make it to this level of discrimination, being excluded from even temporary storage and discriminatory display by most American libraries. This ultimately untouchable category includes "pa-

perback originals" of all kinds, and most notably comic books; though the latter, among children and young adults at least, are probably the most widely read of all narrative forms.

Such generic pre-censorship—or, if that be too strong a term, pejorative pre-classification—provides an easy way out for relatively unsophisticated and fundamentally insecure librarians or bookstore clerks. And who can blame them, trapped as they are in an unworkable system.[8]

Academic librarians might very well disagree with Fiedler and argue that the situation is precisely as it should be, for the popular culture/entertainment industries will surely survive without the help of librarians or the resources of higher education. It is even possible that they will survive without the help of Leslie Fiedler; and if last year's popular culture is quickly forgotten, the loss will be one which most people can survive without undue hardship. Furthermore, the popular culture industries are in competition with, and constitute a serious threat to, those with professional interests in the art, drama, literature, and music which have found a home in higher education. As to research, the popular culture industries do their own research in the areas which are important to them, principally research in marketing, advertising and consumer psychology. They are not even remotely interested in what librarians and professors are doing. If the industries have contacts with higher education, they are more likely to be with the school of business than with the library or departments of the humanities. There are, however, other factors to be considered.

Besides whatever long-range responsibilities librarians have to document our times (constructing that social memory, which has long been considered to be one of the more enduring cultural functions of the library), there are the practical issues of dealing with the demands of faculties and students as the library responds to or anticipates the changing climate of research and teaching. There is some very persuasive evidence that this climate is changing, and that Leslie Fiedler's generalizations are not too far off the mark. If he is representative of a trend in higher education, it is time to take another look at popular culture. The justification for the present survey is that during the past decade there has indeed been a considerable shift in the relationship between popular culture and academic scholarship. This shift is likely to have an impact on libraries and the nature of their resources.

THE RISE OF POPULAR CULTURE STUDIES

Some ten years ago, when *Library Trends* published a monumental, two-volume survey of the "current state and future outlook" of "every major area of bibliography," popular culture was not dealt with as a separate area, and was hardly mentioned in the extensive discipline-oriented surveys.[9] Indeed, at that time it was hardly necessary to do much with the bibliography of popular culture for the simple reason that the academic audience for such materials did not have a high degree of visibility. But in the same year that the *Library Trends* survey was published (1967), Ray B. Browne left Purdue University and went to Bowling Green State University in Ohio. There, he became professor of popular culture and English and, among other things, established the Department of Popular Culture, the Center for the Study of Popular Culture, and the Popular Press. In that year he also published the first issue of the *Journal of Popular Culture.*[10] Since then, popular culture studies have made extraordinary progress.

A conservative estimate of the number of scholars now interested in popular culture, as a central function of their research or as a tangential or occasional resource, would probably be as high as 1,500. If we enlarge our population to include those who teach popular culture in secondary schools and undergraduate departments of colleges and universities (and are therefore interested in both popular culture resources and results of popular culture research), the figure would probably reach 2,500. This group includes a wide variety of academic types, quite disparate in their interests and academic backgrounds. They are frequently at odds with each other and cannot seem to come to a general consensus as to exactly what it is they are trying to do or how to go about doing it. Their present condition, although for the most part healthy and vigorous, shows certain symptoms not unlike those evident in students of American studies, i.e. these scholars and teachers are debating whether the study of popular culture "is a discipline, whether it can develop a method, and whether it *should* develop a method."[11] What they have in common is a belief in the monumental importance of popular culture and an unwillingness to accept the usual evaluations of its nature, quality and social effects. They are doing their best to make the study of popular culture a legitimate academic discipline.

In some established academic departments, this movement clearly constitutes a threat from within. It is one thing to have to contend with those forces of mass communication which rage untrammeled

outside the walls of academia. It is another to be challenged by one's colleagues. A scholar who has, for example, spent his or her life studying the works of Beethoven does not take kindly to the suggestion that a study of the Beatles should have an academic priority comparable to that accorded Beethoven. Unfortunately, this is the case, even though the Beatles may have claimed our attention for reasons quite different from those which drew us to Beethoven. In other words, we are dealing with a topic which is controversial and has been known to have internal political ramifications.

Only recently have some of these wayward scholars organized themselves into a professional organization, the Popular Culture Association (PCA), which was founded in 1969. The parameters of the study of popular culture are not set by the PCA, but its stated aims are as succinct a rationale for the study of popular culture as one will find:

> The Popular Culture Association was founded to study thoroughly and seriously those productions, both artistic and commercial, designed for mass consumption. The founders were convinced that this vast body of material encompassed in print, film, television, comics, advertising and graphics reflects the values, convictions, and patterns of thought and feeling generally dispersed through and approved by American society.[12]

There is in this statement no suggestion that these artistic and commercial products and the values they reflect necessarily constitute a cultural pathology. In any case, the aims of the PCA must have touched a latent vein of dissatisfaction or restlessness, for the PCA soon found recruits from a wide spectrum of academic disciplines. The somewhat confusing, if not chaotic, state of higher education in the late 1960s and early 1970s provided a fertile ground for the rapid growth of popular culture studies: the studies were unconventional, they challenged traditional academic values, they were aesthetically neutral (if not biased in favor of popular culture), and they were concerned with cultural experiences which were intrinsic to the lives of most students. Furthermore, some types of popular culture could clearly be defined as minority cultures, thus reflecting non-WASP values, which were of particular interest at a time when various minority studies programs were being established in universities.

When members of this new interdisciplinary association met in Chicago in April 1976 for their sixth annual convention, hundreds of students and scholars participated in 114 sessions during which they

read, listened to, and sometimes discussed approximately 400 papers.[13] If this seems like a very large number of scholarly papers for a three-day meeting of a relatively small professional organization, keep in mind what the popular culture scholar has to deal with. Because the production and diffusion of popular culture is serious business, vigorously pursued for profit in most advanced and advancing nations of the world, the annual output of printed and broadcast material is staggering in both its extent and its diversity.

In trying to make a case for the thorough and systematic preservation of popular culture, little would be gained by arguing that some of it is good (i.e. aesthetically satisfying and worthy of serious criticism and analysis) by citing selected works by the few writers, artists, and musicians who somehow have managed to transcend the strictures of their medium and the limitations of their audience to create works of permanent value. Librarians have done this in the past, and are doing it now. It is a perfectly sound policy in many situations, and I will comment on it further below. To confront the most basic issue surrounding libraries and popular culture however—and I take this to be the necessity of abandoning or drastically restructuring our traditional qualitative standards of collection building—we need to face the fact that we are dealing with some very down-to-earth material: the kinds of books and magazines sold at drugstore news counters, morning and afternoon television, and drive-in movies. Readers who have lost touch with some of the earthier aspects of middle- and lower-class popular culture, should look at the advertisements in any recent issue of a magazine such as *True Confessions*, listen to some of the recordings of Tanya Tucker, make a field trip to a "disco bar" or a rock concert, and spend several afternoons watching television soap operas.

A few random comments on some of this flotsam and jetsam, the physical remains of one year's tidal wave of popular culture, provide the best place to begin in considering the interdependencies between research libraries and the scholar of popular culture. If some of what follows seems completely irrelevant to the issue at hand, bear with me, keeping in mind that standards of artistic quality and literary merit, moral judgments, and personal tastes have little, if anything, to do with the validity of research data.

GORDON STEVENSON

ONE YEAR'S POPULAR CULTURE

TRENDS AND ACCOMPLISHMENTS

During the year that had passed between the fifth and sixth annual conventions of the PCA, approximately 250 new science fiction novels and short story collections were published in the United States, as well as somewhat larger quantities of detective, crime, and spy novels—but fewer gothic and Western novels. Hollywood produced slightly fewer than 200 feature-length commercial films (a surprisingly small output which in no way reflects the cultural impact of this medium). At a conservative estimate, there were approximately 20,000 hours of live network television broadcasting. There were large quantities of books on self-help, spiritual guidance, hobbies, sex, sadism, sports, cookery, and the occult. In order to expedite the diffusion of some of these materials to their various audiences, one Chicago book jobber—typical of the large wholesale paperback houses—helped "drugstore and variety chains establish 'family reading centers,' " and provided a readers' profile service based on computerized sales records.[14]

Because of the spectacular rise in the sale of paperback books, the members of the American Book Publishers Association were convinced that people were reading more. Newspaper publishers, however, thought that people were reading less. Indeed, between 1973 and 1976 the audience for the American daily newspaper had declined by 2.1 million readers.[15] The newer, more gaudy weeklies, such as the *National Enquirer,* increased their sales considerably.

There were thousands of new issues of comic books, and tens of thousands of new issues of popular magazines. However, less space was devoted to the funnies in the daily newspaper. Some of the classic strips, such as "Terry and the Pirates," had ceased publication a few years previously. But there were many new strips, and some of the older ones, such as "Blondie" and "Dick Tracy," had learned to survive in a world far different from the one into which they were born. It was an interesting comment on the times that many newspapers subscribed to syndicated reissues of "Little Orphan Annie," the conservative, anti-New Deal strip written and drawn by Harold Gray for the *Chicago Tribune* in the 1920s and 1930s. "Nostalgia" (i.e. popular culture more than five years old) was big business. Apparently, all popular culture is not as ephemeral as we once thought it was. Much of it was reprocessed and repackaged in various formats.

Music, be it popular or not, remained a mysterious phenomenon,

one that has never been adequately explained. The editor of the *New England Journal of Medicine* suggested that our propensity for musical sounds may have a basis, not so much in learned cultural behavior, as in human biology[16]—in which case, music may ultimately be explained by the science of bioacoustics rather than by aesthetics. Perhaps this is why only people with serious hearing disabilities can escape the sounds of music. As it has for many decades, commercial popular music continues to attract an astonishing number of hopeful entrants in the *Billboard* magazine popularity contest (i.e. the weekly "Top Forty Charts" of bestselling sound recordings). To this end, according to Serge Denisoff, "50,000 song titles are released annually in the popular music market."[17]

The popular music of the United States continued to have a strong influence on the music of all but the most isolated countries of the world. John Darnton, a *New York Times* correspondent, reported on a new style of music found in Lagos, Nigeria: "Afro-Beat, New Music with Message."[18] Afro-beat is said to be a combination of African styles, rock music and jazz, all somehow fused with African "highlife music" (a semi-calypso music), Bob Dylan and James Brown. Such trends, although obviously accepted with much relish by the people involved, are considered by some ethnomusicologists to be nothing less than cultural rape. (Whether this stance emerges from a loathing for American popular music or a penchant for unadulterated source material is not clear.)

Always sensitive to the needs of a demanding public, the popular culture industry in the United States recognized a new genre of popular music identified as "disco music." Disco music first appeared on the *Billboard* record charts in 1974, seems to have reached a peak in 1975, was the subject of a book in 1976,[19] and (if we are lucky) may be forgotten by the end of 1977.

The U.S. Bicentennial was also the year that the television drama, "Mary Hartman, Mary Hartman," survived its first season and took soap opera to new heights of relevancy (or depths of absurdity, depending on your point of view). "Beacon Hill," hailed by its producers as a U.S. version of the British Broadcasting Corporation's successful "Upstairs, Downstairs," reached an audience of 16.5 million people, but even that huge audience was not enough to give it a winning slot in the Nielsen rating game. Capitalizing on the success of *The Exorcist*, movie producers went on a binge of occult film making. The movie version of Peter Benchley's *Jaws*[20] had passed its peak at the box office, and Hollywood producers were moving on to yet more

spectacular and chillingly realistic films of mayhem, disaster and death. Filmed sex and violence, frequently merging in explicit and brutal scenes of rape, became standard fare for the nation's moviegoers.

Serialized fiction, which had not been widely used on a regular basis in daily newspapers since the 1930s (except in the form of comic strips), was reintroduced by two West Coast publishers. Inspired by the success of television's "Mary Hartman, Mary Hartman," the publishers started "sob-sister serials" aimed at "the type of reader who gets turned on by non-news."[21] The only topic off limits in the 500-word episodes of the serials is bondage. This could be the beginning of a new trend in newspaper publishing.

Students of communication found a new potential area of research with the rise of CB (citizens band radio transceiving). By the spring of 1976, CB had become the latest national fad (at the same time, but for reasons which remain obscure, there was a widespread revival of skateboarding). During the first twenty years of CB, the Federal Communications Commission received one million license applications; the second million were received in less than a year, between the fall of 1975 and the summer of 1976. An interesting form of person-to-person communication, CB was seen as a potential threat by some commercial radio broadcasters whose best broadcasting hours in terms of audience size (and therefore in terms of income) are those times when people are going to and from work in their cars (which means they are probably awake but are unable to watch television or read confession magazines). The rapid rise of CB was a typical popular culture phenomenon, and it is not clear what it means: Is it one more manifestation of contemporary alienation—lonely people trying to reach out and communicate with someone in the asphalt and concrete labyrinths of our nation's highways—or is CB only a harmless, insignificant new toy? How one answers this, or if one thinks it is worth answering, probably reveals something about one's attitude toward popular culture studies in general.

A WORLDWIDE PHENOMENON

Much of our popular culture, packaged in various printed and audiovisual formats, was diffused to the far corners of the earth. Abroad, in the hospitable climates of some countries of Western Europe, it flourished. In other, less hospitable and even alien environments, including those of the emerging countries of the Third

World, it contributed to the continuing process identified by some social scientists as "modernization" and by others as "the Americanization of the world."[22] Telefilm was a major export item. No one knows exactly how much television in the form of film was exported; it has been estimated to be 100,000-200,000 hours annually.[23]

American culture interacted with local value systems in other countries, and it is a reasonable hypothesis that it had an impact on changing lifestyles. For better or for worse, the world changed, however subtly, as the informational environment of millions of people in hundreds of countries was changed. As C.W.E. Bigsby wrote:

> Moreover, in crossing the Atlantic, in spreading downward through South America, northward through Canada, or westward across the Pacific, American popular culture suffers a sea-change. Detached from the physical and psychic realities which gave it birth, it assumes a new identity. Changing shape at each cultural interface, it becomes, in effect, a Superculture, a reservoir of shifting values and images splashed like primary colours across the consciousness of the late twentieth century.[24]

CRITICISM

As was to be expected, not everyone was happy about the trends in popular culture. The major sources of criticism, as identified by Gans, seemed to continue.[25] On one hand, critics and scholars thought it was banal and vulgar, lacking in depth, and potentially dangerous to high culture. Another strand of criticism came from the lower and middle classes, who were more concerned with such issues as drugs, nudity, and antisocial or unconventional behavior. For example, Loretta Lynn's country and western song, "The Pill," which deals with extramarital activities of a lower middle-class housewife, was banned from many radio stations in 1975 and condemned from pulpits throughout middle America.[26]

More relevant to the problems of academic libraries were the comments of the president of Stanford University, who described the reading of college students as "inhumane letters" and "junk." Scholars should be alarmed, he said, at the lists of campus bookstore bestsellers published in the *Chronicle of Higher Education*. *Library Journal* reported that he urged "scholars and librarians to adopt 'aesthetic conservatism' in evaluating new literature, demanding high quality that will last and 'calling sordidness by its right name.' "[27]

Robert Brustein, dean of the School of Drama at Yale University, observed our society in his book, *The Culture Watch*,[28] and was disturbed by "the dangerous symptoms of cultural leveling at work in America today."[29] In Thomas Meehan's essentially negative review ("Pop-eyed Professors") of a conference on political humor, Irving Howe of Columbia University was reported to have said: "I think that taking an owlish, pseudo-scholarly approach to, say Batman, as though it was Dante being studied, is clearly absurd."[30] The roots of these controversies run deep. One suspects that the rapid pace of cultural change widens the gap between different generations of scholars as well as between different generations of students and laypersons. The world's first television generation (people now in their late twenties, who have lived all of their lives with television) has worked its way up through college, and some of its members are now entering the ranks of academic scholars and researchers. They bring to their work new outlooks and different values.

TAKING POPULAR CULTURE SERIOUSLY

THE SEARCH FOR TRUTH

All of the above—and much, much more, because my selective comments represent only the tips of several icebergs—has now become, in the words of the editor of this issue of *Library Trends*, "evidence" in that ever-elusive search for truth. A cursory survey of the list of topics discussed at any annual meeting of the PCA makes it quite clear that what librarians have traditionally identified as "trash," "entertainment," and "escape literature" are the basic resources of popular culture research. In fact, it seems that there is nothing too trivial, too banal or too trite to be excluded from the domain of the popular culture scholar.

A mere listing of the titles of some of the papers read at the sixth annual PCA convention is enough to capture much of the unorthodox flavor of what these scholars are doing: "Fate and Free Will in Contemporary Sports Novels," "*Jaws*: A Jungian Interpretation," "The Captain America Complex: The Reshaping of the Classical Monomyth," "Everybody Must Get Stoned: The Case for Rock [Music]," "Methods of Collecting Archival Material in the Occult," "Frequency Distribution of Prime Time [Television] Characters," " 'Flintstones' as Detrimental Cultural Myth," "Gospel Music and Nashville," "The Marlboro Man: Medieval to Modern," "*Kung Fu*; or, The Resolution

of the Dialectic," "Structuralism and the Disney Universe," "The Morphology of the Half-Time Show [at Football Games]," "Sensuality and Soap: The World of the Daytime Serial," and "The Spy Story as Modern Tragedy."[31]

Jungian, the monomyth, frequency distribution, detrimental cultural myth, the dialectic, structuralism, morphology—these terms suggest an essentially nonqualitative approach to popular culture phenomena. They also bespeak a seriousness of purpose appropriate to academic scholarship, although they do create jolting incongruities with the mundane nature of the sources.

LIBRARIANS

It is obvious that if academic librarians begin to take popular culture as seriously as some of these scholars, there are likely to be a number of complex problems of a practical nature which will have to be considered. Because we have been taught to exercise qualitative judgments in building collections, we will need to find new guidelines and strategies to provide alternatives to our traditional selection criteria.

There are three aspects of the serious interest in popular culture which can provide ways of examining its potential impact on libraries: (1) the distinct possibility that some popular culture may be creative enough (i.e. aesthetically, formally, etc.) to warrant its serious consideration on the basis of traditional standards of quality, (2) the pragmatic question of what is actually being taught in higher education, and (3) the equally pragmatic question of what materials are needed by scholars in their research. The first of these is familiar territory to librarians. In considering Fiedler's remarks quoted above,[32] one could conclude that all he is asking is that we avoid the stereotyping of classes of literature (what he calls "generic pre-censorship" or "pejorative pre-classification"), and apply some standards when evaluating, for instance, a gothic novel, rather than rejecting it out of hand because it belongs to a class of literature labeled "Gothic Novels." The second aspect is related to the first to some extent, for in humanities departments we can expect to find more use of popular culture materials when and if more scholars are convinced that their quality warrants serious critical consideration.

As important from a practical point of view as these two aspects may be, in the long run the future shape of popular culture studies as a respectable discipline in the academic community will depend very

much on the quality of its research. Considering the comparatively recent rise of popular culture studies, a rather large amount of research has been produced.

RESEARCH

Four types of information are relevant to an examination of the relationship between popular culture research and the functions and services of research libraries: (1) the home disciplines or specialties of the researchers, (2) the types of topics studied, (3) the research methodologies, and (4) the types of resources used in research. Such categorization would be quite artificial in examining a well-established discipline, for research topic, method, and resources are all interrelated and emerge from the central questions asked by a discipline. Popular culture studies do not yet have this sort of unity; its scholars come from many different disciplines, bringing with them different perspectives and different assumptions. The questions asked by a historian are generally quite different from those asked by an anthropologist; the questions asked by a musicologist are generally different from those asked by a sociologist of leisure; nevertheless, scholars from all of these disciplines may be examining the same cultural phenomenon. For example, both Denisoff and the late T.W. Adorno have contributed to the sociology of music. Denisoff, at home in the sociology of the American empirical tradition, brings to popular music a perspective[33] that is completely lacking the the work of Adorno. The latter, although both a musicologist of considerable standing and a sociologist closely associated with the Frankfurt School and the Institute of Social Research,[34] brought to popular music the perspectives of the German musicologist, heavily burdened with essentially unprovable value assumptions and with not the slightest interest in empirical evidence. An American musicologist, Charles Hamm, commented on the "social, political, and cultural processes that distinguish twentieth-century music," and his approach was related neither to Denisoff nor to Adorno.[35] Hamm did not refer to the considerable amount of literature devoted to his topic in the sociological journals. Such varying approaches can not always be predicated on the basis of the disciplinary backgrounds of researchers. They are, in any case, of some importance in getting a picture of the current locus of popular culture research, and the likely future shape of the discipline.

HOME DISCIPLINES

The home disciplines of the membership of the PCA have not yet been analyzed in detail. However, a reasonable index to these disciplines would seem to be possible from an examination of the disciplinary sources of material published in the *Journal of Popular Culture*, which has been the official organ of the PCA since 1969. At the completion of the first five volumes of the *Journal* (1967-71), Lohof made a quantitative analysis of their contents to identify trends and characteristics of popular culture studies.[36] Of the 281 articles published during these years, the home disciplines of all but 39 (13.9 percent) of the contributors were identified. He found authors representing fourteen disciplines or categories of disciplines: anthropology, English, communications, folklore, history, interdisciplinary studies, law, modern languages, music, natural/physical sciences, political science, psychology, sociology, and "religion and/or philosophy." The discipline contributing the most authors to the *Journal* was English, with 114 contributors (40.6 percent of the total); the second largest number of contributors was from history, with 43 (15.3 percent). The category identified as religion and/or philosophy accounted for thirty-nine authors (13.9 percent). Various interdisciplinary studies (not specifically identified by Lohof, but probably heavy in American studies) accounted for thirty-three authors (11.7 percent). The contributions from sociology were few in number (twenty articles, or 7.1 percent). Each of the other disciplines supplied less than 2.5 percent of the total contributors.

Although the major trend is quite clear, some caution is needed in attempting more subtle analyses. Even the picture of the PCA which emerges from this data cannot be considered in any way definitive, for there are many other outlets for published research available to the membership. In fact, two of these outlets are closely associated with the PCA, and may have drained off material from the *Journal*: *The Journal of Popular Film*, which began publication in early 1972, and *Popular Music and Society*, which began publication in the fall of 1971.[37]

The whole area needs more thorough study. The fact that a scholar is identified with English, history or sociology does not necessarily mean that that scholar will in fact use literary, historical, or sociological topics and approaches. The large number of scholars from English and history surely helps to set the tone of the PCA , but one also wonders if many of these people, although intellectually committed to

popular culture, are bound to their traditional disciplines for practical reasons. It does seem clear, however, that scholars of English tend to deal with forms of fiction in different media (the printed word, narrative drawings as in comic books, movies, and television shows); yet this is not always the case. Sometimes the topic discussed is so removed from the home discipline of the author (e.g., a lawyer discussing popular fiction) that the connection between topic and discipline has little significance. Yet this, too, can be deceptive. When one learns that a professor of religion and a professor of philosophy have collaborated on a study of those astonishing spectacles known as "demolition derbies" and the television show "Truth or Consequences," one wonders what is happening. What is happening, in this case, is an examination of these events as specific examples of a general class of secular rituals, actually reversal rituals, which function to support traditional values while appearing to do the exact opposite.[38]

When we begin to go beyond the membership of the PCA and its contribution to the *Journal*, we are frustrated by the large number of scholarly journals which are likely to contain relevant sources. The real problem here is less one of identifying disciplinary sources than it is of bibliographical control. Both before and after the founding of the *Journal of Popular Culture*, journals of sociology, anthropology and communications have found room for popular culture research.

RESEARCH QUESTIONS AND TOPICS

Questions about popular culture relate to its origins, form, content, diffusion, effects, and use. It is my impression that none of the questions asked of popular culture are new, for such questions have been asked of other phenomena by the relatively traditional disciplines and subdisciplines. The unique feature of popular culture studies is simply that these questions have not been asked consistently, objectively and systematically of popular culture before—or, if they have been asked, they have been left unanswered and research traditions have not evolved. Study of the entire process as an integrated whole within today's environment and in a way consistent with the cultural sensibilities of modern students would seem to be the unique challenge to popular culture scholarship. The practical justification for popular culture research is that it seems to be a significant feature of modern life, it may have far-reaching social consequences, and therefore its functions and processes need to be understood.

Some advocates of popular culture studies would distinguish them from American studies only in terms of popular culture studies' tendency to deal with more mundane and more contemporary subject matter. These people would agree with Jack Salzman's recent statement that the aim of American cultural studies is to "elucidate the essential nature of the American character,"[39] with the reservation that popular culture studies should not be limited to American (i.e. U.S.) culture. This is related to the question of the theoretical foundations of popular culture studies. Important as this question may be, it has not been widely discussed—except in the noting of its absence. Only seven of the papers read at the 1975 PCA convention could qualify as theoretical.[40] In the Lohof survey, thirteen (4.6 percent) of the articles dealt with "Theory/Method in Popular Culture."[41] In 1976, however, questions of theory and method were the subject of a special section in the *Journal of Popular Culture*, which represents the most thorough and probing investigation of these issues yet produced.[42]

For information on more specific research topics, we turn again to Lohof's work. He set up a system of twenty-one categories (e.g., advertising, amusements, art, public affairs, religion), including in his list some categories which are not mutually exclusive (e.g., there is a category for advertising and one for television, but no subcategory for television advertising). It is highly significant that the largest category of research was "Literature: Fiction" (30.2 percent), followed by "Cinema" (10.3 percent), "Music" (9.9 percent), a category identified only as "Thought" (8.2 percent), and "Comics/Cartoons" (5 percent). Each of the other categories accounted for less than 5 percent of the total.[43] Furthermore, 52.7 percent of the topics fell into the time period of 1950 to the present, and 81.9 percent dealt with a phenomenon as manifested in the United States.

By using the simple communications model mentioned above (i.e. form, content, diffusion, etc.), we find that scholars tend to deal with only one or two elements in the communications process, i.e. either their dynamic or static dimensions. Elements dealt with usually distinguish those scholars emerging from humanities backgrounds (interested in form and content) from those emerging from social science or behavorial science backgrounds (interested in processes, functions and effects). In terms of the study of form/content elements, two recent works should be cited, because they are important enough to be considered landmarks and will probably have considerable influence on both teaching and research: Wright's *Sixguns and*

Society, which is a structural study of the Western film;[44] and Cawelti's *Adventure, Mystery, and Romance*, which is a study of the role of literary formulae in modern popular fiction.[45] The study of the effects of reading is finding much interest as a basis for understanding the formation and reinforcement of sex roles and stereotypes. The effects of music on the young (with most research using popular song lyrics) continue to be of interest to some sociologists. Studies of the effects of advertising are almost a minor industry, but are mostly done outside of higher education. Television, of course, accounts for the greatest amount of research in the effects of media exposure.

Insofar as popular culture research has been done as background for governmental policy decisions, it has been done mostly in the areas of pornography and televised violence. Lately, increasing interest in the effects of advertising on children has resulted in an effort to determine what it does to them other than to make them want to eat more candy and breakfast cereals. Apropos of the interests of the academic community, should federal, state, and local subsidies for the arts be confined to the traditional high arts (e.g., avant-garde composers), or should they go also to country and western singers and composers of rock music? The work of Herbert Gans attempts to provide a rational answer to this question, while bringing to policy research a new dimension which is likely to attract much attention.[46]

Cawelti has provided a method of categorizing popular culture research which is somewhat different from the above. While noting that the field seems "various and confused," he found that it is "potentially a single area of study," which presently consists of five subdivisions: "(1) Studies in the popular arts; (2) Studies of popular behavior and attitudes; (3) Mass media and their cultural impact; (4) New trends in contemporary popular culture; (5) Theory of popular culture."[47]

The unanswered question remains to what extent the PCA can coordinate the various questions emerging from the humanities and the social and behavioral sciences, with their diverse conceptual frameworks, into a new and clearly distinct discipline. There is no doubt, however, that the PCA has structured the framework for a lively interchange. The structure of the PCA includes forty-nine "Area Chairpersons," presiding over areas which are defined by media and subjects. The list of areas begins with "Advertising, Marketing, Image Making and Public Relations" and ends with "Women in Popular Culture"; between the two, nothing seems to have been

omitted, and there is a place somewhere for anyone with the remotest interest in popular culture.

METHODOLOGIES

An examination of the material published in the *Journal of Popular Culture* and the papers read at the 1975 PCA convention[48] indicates clearly the overwhelming dominance of research involving the analysis of documentary (printed, filmed, recorded) evidence. Controlled observation, surveys and experimental research are conspicuous only because of their infrequent occurrence. Of the papers from the 1975 PCA convention, only one paper used techniques of survey research.[49] In the analysis of these sources, we find surprisingly little traditional content analysis using quantification and statistical analysis of variables. In a very real sense, traditional literary analysis and criticism are forms of content analysis, and it has been quite convenient to apply these literary approaches rather than the more rigid (and, in any case, frequently suspect) techniques of strict quantification preferred by sociologists. Denisoff calls content analysis the Achilles heel of popular culture.[50] Of course, the problem of using content analysis (be it strictly quantitative or not) is exacerbated by the difference between the content of the document as analyzed by the researcher and the content of the document as perceived by one or more other human beings within some sort of cultural environment.

Content analysis has frequently been discredited as a source for information to explain human behavior; but, on the other hand, controlled experiments and observation have been slow to produce definitive results in studying the effects of media exposure. Suggesting that these separate approaches provide too narrow a focus, Gerbner is working with techniques which combine the analysis of content with other techniques.[51] He has come as close as anyone to finding some sort of common ground where humanistic and scientific approaches to the study of popular culture message systems can interact. He is interested in measuring the "quality of life" (as evidenced in his "Cultural Indicators"), and the quality of life has always been a central concern of the humanities. Whatever limitations content analysis may have, its potentials continue to attract researchers from numerous disciplines. Morris Janowitz, for example, has recently argued that large-scale systematic analyses of mass media content are essential in order to provide information for policy decisions.[52]

Experimental research and observation have been used most extensively in research directed toward understanding the impact of television on human behavior. This opens up a large body of sources quite different, for the most part, from the PCA sources. This approach, using an awesome array of carefully controlled methodologies, can be seen in the five volumes of technical reports resulting from the research sponsored by the U.S. Surgeon General's Office, *Television and Social Behavior*.[53] The results of the work of almost sixty behavioral scientists were inconclusive and controversial. Content analysis, as the major research technique, constituted only a very small part of this massive project, although in specific behavioral studies, correlations between content and behavior obviously required at least gross analyses of content and systems of categories. The work of George Comstock and his colleagues (which constitutes both a state-of-the-art review of research in television and human behavior and a working agenda for future research) indicates that scientific research even in this rather narrow area is widely scattered through different disciplines.[54] Furthermore, Comstock provides a set of ten categories structuring this research in a way which would serve as a good basis for bibliographic organization not only in television research, but in other areas of popular culture research as well.

RESOURCES

It follows from the above that one would expect the major type of research data used in popular culture research to be documentary evidence; this is indeed the case. Whether this is the healthiest state for popular culture studies probably depends on the disciplinary affiliations of whoever is asked for an opinion. It seems obvious, however, that the present situation does not prevent, for instance, the student of the sociology of leisure or of sports from using whatever data are necessary by way of surveys, interviews, participant observations or experiments. There are, however, limits on the extent to which librarians can supply primary research materials. In terms of artifacts, these limits seem to encompass, at least potentially, massive quantities of primary sources in all media.

To verify these general impressions, the sources identified by authors in preparing their papers for the 1975 PCA convention were examined, with the following results:

Print:	Literature	62
	Hymn texts	1
	Song texts	2
	Comic books	1
Film		11
Television		7[55]

This brief analysis does not include secondary sources, because such sources are an entirely different problem which cannot be considered until there are a number of citation-analysis studies. The extensive dependence on printed primary sources, although probably reflecting the prominent role of English scholars in the PCA, is nevertheless somewhat surprising.

The need for historical resources can be expected to increase as popular studies become more firmly established. Rollin (who argues against a hierarchical evaluation of popular culture) recently wrote: "The historical study of Popular Culture remains a vast *terra incognito,* whose charting could occupy us permanently, given the expansion rate of contemporary Popular Culture."[56] If charting this unknown territory is going to occupy scholars to the extent which Rollin suggests, there will be important implications for libraries. To what extent the choice of research topics has been restricted by the unavailability of resources is a question that must haunt librarians interested in popular culture research. There are thus two main concerns: the bibliographical control of popular culture and physical access to it. Before commenting on these two problems, a few words on the artistic and pedagogical aspects of popular culture studies will be useful.

POPULAR CULTURE AS ART

There seem to be two ways to think about popular culture as art: (1) the extent to which some popular culture meets criteria already established and in use by academic scholars of art, literature, and music; (2) the extent to which popular culture (whether it meets academic aesthetic standards or not) performs a function in the lives of its users which is comparable to that of high art in the lives of its users. Whatever is said about either of these approaches will be

controversial and cannot be proven in an objective way. The second is probably the more controversial, and I will comment on it first.

One could argue that there is, in terms of the functions of art, no valid distinction along hierarchical lines, that the terms *high art* and *popular art* are essentially meaningless. According to this line of reasoning—in which I firmly believe—the popular country and western singer, Roy Acuff, is only "popular culture" to those observers whose tastes run to a singer such as Dietrich Fischer-Dieskau. To the people who derive from the music of Roy Acuff some measure of beauty, some meaningful experience, this singer is neither "popular culture" nor is he "high culture"; he is simply unqualified culture in the most precise meaning of that term. In this context, Fischer-Dieskau does not sing better than Roy Acuff; he just sings differently. To Acuff's audience, Acuff is the supreme artist, a Nashville Beethoven, whose magnificent, subtle tones and accents touch the spirit in ways available only to the true artist, and in a way which connoisseurs of the art of Fischer-Dieskau will never be able to understand. To Acuff's audience, life without him would have been somewhat harder to endure and would have had less beauty. Of course, other people in other places can say the same of Fischer-Dieskau—which, I would think, is good reason why the works of both men should be found in libraries and known to scholars who pretend to an interest in the human condition as it is, as well as the way they would like it to be, and to this end study objects of cultural significance. I believe that this line of thought is somewhat different from the line taken by those who have done much to introduce popular culture into the humanities curricula of higher education. Their reasoning, however, will prove more useful in broadening the academic support for popular culture.

The idea that some popular culture, if not most of it, is a form of art obviously depends on how art is defined. In his college study guide, *The Sociology and Psychology of Art*, Robert Wilson deals with art as traditionally defined by higher education (i.e. "serious" literature, "classical" music, etc.), and thus closes the door on the possibility of examining his topic as it relates to the experiences of most people in the United States, including most of the students to whom his text is addressed.[57] A different understanding of the boundaries of art has brought much popular culture into that mysterious realm. This changing attitude predates Wilson's work (which was published in 1973) by at least five years (see, for example, Cawelti's "Beatles, Batman, and the New Aesthetics"[58]). In a more recent work,[59] Cawelti asks if popular culture is coming of age. Although a bit cautious in

answering the question with an unqualified "yes," he is obviously convinced that if it has not all come of age, some of it has come a long, long way. Cawelti examines the background of this change, commenting particularly on the significance of the pop art movement (which successfully challenged New York's "Abstract Impressionism"), the fascinating "Third Stream" art which had its moment in the sun (Gunther Schuller's Third Stream music, jazz masses, jazz operas, and the like), the emergence of some very sophisticated "new wave" science fiction, and changes in filmed and televised drama. Cawelti notes the influence of the "younger humanists," with their acceptance of a plurality of cultural systems, "each with a special autonomy and value of its own."

Central to much of Cawelti's reasoning is the new historical consciousness (a term certainly more useful than "nostalgia," which relates to the users of popular culture rather than to its creators): "This awareness of historical tradition in popular culture seems a significant new phenomenon."[60] Some newer works of popular culture "embody a historical sophistication and awareness that is generally absent from earlier works in these popular traditions."[61] It seems that during the past decade, if not longer, the quality of popular culture has improved. It is more sophisticated, complex, and subtle. It has attained a high level of aesthetic and intellectual content. Certainly this is not true of all popular culture, but is true of enough of it that a new aesthetics can be defined. The audience for this art has rejected traditional classics as well as the overly simplistic structures of an earlier popular culture. The most obvious result of this reevaluation of popular culture is the extent to which popular culture is now being taught in colleges and universities. Generally speaking, departments of music (except for their token courses in jazz and folk music) and departments of art (except for the extent to which young artists create works of art, which to the layperson are hardly distinguishable from junkyard contents) seem to have held out longest against this wave of what Ray B. Browne has called "the new humanities."[62] The impact of the new humanities is most strikingly evident in departments of English, and—although not yet nearly so pervasively—in departments of anthropology and sociology.

TEACHING POPULAR CULTURE

The following two course descriptions, taken from the catalog of courses offered at Boston University during the summer of 1976 are

relatively typical of hundreds of courses now being offered in American colleges and universities:

> CLA AN [Anthropology] 369. Pop Culture: The Great American Way of Life. How are sports, television, movies, literature and the comic book, Madison Avenue, and the world of high fashion expressions of the Great American Way of life? Or, how is the great American way of life the expression of all of these things? Are the above mentioned things related to the complex culture and society of the U.S. at all? Participants in the course attempt to deal with these questions through an anthropological perspective. Readings, lectures, and field observation are the modes used in exploring both the media and the messages. *Assistant Professor Aquilera.* 9:30-11:00 A.M. 4 credits.
>
> CLA AN [Anthropology] 370. Science Fiction and Fantasy: An Anthropological Perspective. Constructions of imaginary worlds frequently reveal very much about the world in which the author lives and works. Works of science fiction and fantasy utilized as reflections of the socio-cultural systems from which they emerge. Works used from as many different cultures and time periods as possible. *Mr. Aquino.* 11:00 A.M.-12:30 P.M. 4 credits.[63]

Aquilera and Aquino were not the only instructors to turn to popular culture resources at Boston University's summer school last year. Throughout the university's catalog there is evidence of interest from disciplines other than anthropology, including literature, women's studies, film studies, sociology (which also offered a course in science fiction), and public communications. Boston University is not atypical in its burgeoning interest in courses in popular culture, but it is difficult to determine how many such courses are being offered in the United States. Nevertheless, when Yale University begins such a program it is safe to assume that this is something that is more than a passing fancy. Last spring, in his undergraduate course English 76-2A, Yale professor David Thorburn "launched into a discussion of the moral problems posed by the macho TV series 'Kojak' " before moving on to comment on "The Honeymooners" and Archie Bunker's "All in the Family." Thorburn, who is obviously one of the new humanists, told his class of 250 young scholars that television may be our most serious form of dramatic art and should be taken seriously.[64] Ray B. Browne, who probably knows more about this movement than anyone, estimated in 1975 that "the number of

courses in popular culture—under such names as film, sports, popular fiction, TV-radio, et cetera—has grown to at least 1000, in several hundred colleges and universities."[65] This seems to be a very cautious estimate. In the American Film Institute's *Guide to College Courses in Film and Television*, we find these numbing statistics: at 791 schools, there are 8,225 film and television courses, taught by 2,622 faculty members to 30,869 students pursuing degrees in film or television.[66] Jack Williamson located the beginnings of the science fiction invasion of academia at Colgate University in 1962, and in his own survey of the situation listed more than 250 courses in American colleges, but noted that another authority, James Gunn, "estimates an actual total [of science fiction and fantasy courses] nearer one thousand."[67]

Other evidence of a pedagogical interest in the potentials of popular culture is its frequent incorporation into American studies programs. The Modern Language Association, which for more than a decade has had a subsection on science fiction, has recently decided that its "Comparative Literature II" subsection shall henceforth be devoted to popular literature. The College English Association is also interested in popular literature, as evidenced by its recent publication *Science Fiction: The Academic Awakening*.[68] All of this is proceeding rather quietly, all things considered. It is, after all, a revolution of sorts.

If there is going to be some kind of serious academic schism, I would look for it among our musicologists. When someone with the academic credentials and creative acumen of Wilfrid Mellers writes a serious book about the Beatles,[69] one has no recourse but to take it seriously. When Yvette Bader reviewed this study for *Notes*, the journal of the Music Library Association (which, in some ways, may be considered an arm of the culturally elitist American Musicological Society), she wrote:

> We can look forward to a whole rash of similar erudite studies (including doctoral dissertations) on far less talented musicians than the Beatles. Whether by opening up Pandora's box Mellers has contributed to human knowledge, or whether he has simply given respectability to a type of sound which academic theoreticians have scorned for years, is impossible to predict.[70]

Passing over the astonishing assumptions found in these few sentences, one must regretfully suggest that Bader is probably overly optimistic about both the ability and the inclination of the current generation of American musicologists to contribute to the study of

current popular music. Anyone who doubts this should examine Richard Crawford's essay, *American Studies and American Musicology.*[71] In order to find a place in higher education for the study of American music, Crawford has invented something called "American musicology." This musicology is different from the more or less standard musicology taught in the United States (which is an extension of the discipline as it was developed in Europe). I personally do not find this American musicology promising, except to the extent that it may coincide with Bonnie Wade's definition of ethnomusicology, which she sees as "the study of music, culture, and society all in one package which requires the combined study of music, anthropology, sociology, folklore, linguistics, or any other discipline that becomes pertinent to whatever music is under consideration."[72]

THE NEXT GENERATION

Bubbling up under all of this is a new generation of high school students, the bulk of whom are drenched in popular culture during their out-of-school hours. Nor could the high school itself resist the invasion of popular culture studies. The introduction of such studies into the high school curriculum may, in the long run, have the greatest impact on the shape of undergraduate studies and graduate research in years to come. This movement requires a separate survey, and I will comment here on only several recent developments. In March 1976 the bulk of one issue of the *English Journal* was devoted to sources and uses of popular culture in secondary schools.[73] In the previous year, *Social Education* had a section on "Social Studies and Popular Music," which included B. Lee Cooper's piece on images of the future as pictured in popular music.[74] In his review of recordings of the pivotal rock 'n' roll artist, Chuck Berry, Cooper wrote: "For the social historian, the literary analyst, or the cultural sociologist, these three Chuck Berry albums are potential gold mines for study."[75] His review was published in the *History Teacher*, and Cooper made a very persuasive case for the use of Chuck Berry's music in high school and college classrooms.

High school teachers now have access to curriculum modules produced by Prime Time School TV. Topics critically and analytically related to current television programming include: constitutional law (i.e. law as it is practiced in real life as compared to how it is practiced in television drama), television commercials, human relations, value education (using "All in the Family" and other series), and economics and world affairs.[76]

The high school periodical *Senior Scholastic* regularly reports on popular culture personalities and events.[77] High school poetry courses include the study of texts from current popular songs; a splendid example is Hogan's *Poetry of Relevance*,[78] which includes many texts by artists such as Paul Simon, Mick Jagger and Joni Mitchell. Recordings of old radio programs are widely used in courses in history, social studies and literature, and teachers exchange ideas in the periodical *Media and Methods*.[79] Science fiction is also used in an array of high school courses, and publishers have responded with numerous anthologies aimed at the high school market.

Much of this development in the secondary schools is an attempt to respond to the fact that the entertainment industry is one of the most powerful educational forces in our society. Rather than leaving this informal education entirely in the hands of media programmers, some high school teachers are trying to develop critical and analytical skills to help students deal rationally with some of the forces which are shaping their lives.

It would probably be a good idea to assume that popular culture studies, in one form or another, are going to be with us for a long time. New types of students and instructors will come into our colleges and universities; they will need new resources, and they will open up new areas of research. What we have seen so far could be just the beginning of a massive change in higher education and academic scholarship. A few years ago, John Cawelti wrote: "It is too early to tell whether popular culture studies will develop as an independent discipline or will eventually be enfolded back into anthropology, cultural history, American studies and social psychology."[80] It may still be too soon to tell the future of popular culture's place in higher education. That it will continue to have a place, however, seems assured. In the meantime, whatever happens and whatever strange places our wayward scholars go, the maps to the territories will be systems of bibliographic control.

The earliest systematic excursions into many areas of popular culture were made by nonacademic scholars and by private collectors. Whether we are talking about bibliographic control, research, or physical access to primary sources, these people must be taken into account. It is obvious that in many areas of popular culture (e.g., recorded popular music, radio broadcasting, comic books), the bulk of what has been preserved remains in private hands.

GORDON STEVENSON

THE ROLE OF THE PRIVATE COLLECTOR

It is possible that in the near future private collectors will look to academic libraries as the ultimate repositories for their collections—assuming that academic librarians want them. Clearly, the most important contribution of the private collectors has been the preservation of materials which would otherwise have been lost, but their contributions go far beyond this. The passion for collecting is, as often as not, accompanied by a considerable knowledge of the form, structure and history of specific communications media. Collectors also need to communicate with kindred spirits. Thus, there are few areas of popular culture which do not have associations and systems of communication. These run the gamut from loosely structured fan clubs, which are quite unsophisticated and are of negligible scholarly value, to more formal organizations which have made substantial scholarly contributions (e.g., the John Edwards Memorial Foundation).

These collectors' organizations are of interest for their substantive contributions to preservation and bibliographic control, and because they are cultural phenomena which are worthy of documentation and sociological study in and of themselves. There is a sharp distinction between associations which represent the interests of private collectors and those which represent the interests of academic scholars and librarians. The Association for Recorded Sound Collections seems to be one of the few associations which have deliberately tried to resolve the interests of both groups. It cannot be said that this organization has been spectacularly successful, but it has survived for a decade and continues to provide a forum for discussion of discographic problems of common interest to academic and nonacademic scholars and collectors.

Members of the academic community are not always accepted into the nonprofessional organizations without some resentment. In some cases, this lack of rapport is a byproduct of cultural differences which separate the lower and middle socioeconomic classes from the highly educated elite. It is exacerbated by the language of scholarship, which nonacademic scholars believe is unnecessarily prolix, pedantic and dull, and by the collectors' suspicions—which are not always without foundation—that the scholars' interests are not motivated by a genuine respect for the sources. Librarians must in some way establish contacts with the private collectors if some of the massive private collections are eventually to go to libraries. It is not at all clear how this

is to be done, but a beginning has been made by those librarians who have taken popular culture seriously enough not only to collect it, but also to catalog it and make it accessible to library users.

FANZINES

A fascinating and little explored area of popular culture is the large group of noncommercial periodical publications identified as fanzines. The only serious study of the fanzine phenomenon was produced by Frederic Wertham, the behavioral psychologist whose works include the controversial and highly influential study of violence in comic books, *Seduction of the Innocent.*[81] To the scholar, fanzines are not only sources of information about popular culture's form, structure and bibliographic control, but are also cultural phenomena worthy of study as systems of communication. They are produced for relatively small audiences, and are the exact opposite of the mass circulation popular culture magazines. Wertham says that they are "sincere and spontaneous," "essentially unpolluted by the greed, the arrogance, and the hypocrisy that has invaded so much of our intellectual life," and, most importantly, they are media of communication which flourish "without any outside interference, without any control from above, without any censorship, without any supervision or manipulation."[82] The tendency has been to identify fanzines as the noncommercial periodicals and newsletters associated with science fiction and comic books, but the same phenomenon exists in virtually all areas of popular culture. For example, various forms of popular music account for hundreds of fanzines. No scholar or librarian seriously interested in jazz, rock 'n' roll, or country and western music could begin to deal with the discographic control of these areas of study without access to some of the fanzines. Some of them are quite specialized. In his article "Collecting Rock Oldies—Records that Go Jingle," Ditlea comments on six rock music collectors' sources, and notes that some are limited to the subgenres of "British rock" and "white rock of the 1960s and 1970s."[83]

Wertham has identified more than 200 fanzines dealing with science fiction. The number of fanzines in all areas of popular culture probably totals several thousand titles. For all practical purposes, bibliographic control of fanzines does not exist. Few libraries collect them, and they seldom turn up in sources for the bibliographic control of periodicals. If as few as six academic libraries were to attempt to deal with fanzines on a cooperative basis, it would be

possible to collect systematically a good portion of these sources and to structure some sort of clearinghouse for information about them.

BIBLIOGRAPHIC CONTROL

TYPES OF SOURCES

The obvious distinction between primary and secondary sources can be used to categorize two types of material and two essentially different types of bibliographic problems. The primary sources are books, films, television shows, and whatever artifacts are used to record and transfer popular culture information. Another group of primary sources is documents concerning the creators of popular culture, including materials as diverse as letters, diaries, annual reports of manufacturers, and advertisements—in short, the whole range of sources usually associated with historical and literary research. Secondary sources include the articles, studies, research reports, etc., which analyze, criticize, or comment on popular culture in any of its aspects. This distinction raises a few minor problems. A periodical or book about popular culture which has been produced for laypersons interested in popular culture may be used as either a primary or a secondary source. For example, the periodical *Rolling Stone* may provide the researcher with factual information on some aspect of popular culture, but this periodical itself is part of the system of popular culture communications. It interacts with the producers and consumers of popular culture, and while providing news, gossip or opinion, it also changes popular culture. The fanzines belong to this category of sources.

SECONDARY SOURCES

The various sources of popular culture research emerging from humanistic and scientific disciplines create serious problems of bibliographic control for the scholar of popular culture. Because materials are scattered everywhere, it is nearly impossible to gain a comprehensive view of what is happening. An example of this dispersion, although admittedly on a very small scale, may be seen in the bibliography prepared by Larry Landrum to support his discussion of methodology in popular culture research. He selected "reasonably current articles which are representative of a wide range of disci-

plines, journals, research interests, methodologies, and styles of presentation."[84] He produced a bibliography of 100 items published in 68 different journals. The incongruities are striking; included are *Rural Sociology* and *Yale Review, Annals of the Association of American Geographers* and *British Journal of Aesthetics, Journal of Applied Social Psychology* and *Industrial Archeology.* All of these sources are adequately dealt with in indexing and abstracting services—adequate, that is, for a rural sociologist, a geographer, or whatever. No service, except the recently-published *Abstracts of Popular Culture,*[85] has attempted to deal with these and other sources selectively for the specific purpose of serving the potential interests of the popular culture scholar.

We are completely lacking in any studies of the channels of communication among popular culture scholars. The consequences of the bibliographic situation may be presumed to be serious, in any case. Even a brief examination of the studies of television published in the *Journal of Popular Culture* and other largely humanistically oriented sources suggests that the vast literature of the sort examined by Comstock[86] is very seldom referred to by writers for the *Journal,* and that references to works which are published in the *Journal* are, in turn, lacking. The assumption that scholars and students examining the same phenomenon find that the work of their colleagues in other disciplines is irrelevant to their own work is neither defensible nor logical.

Unusual problems of access to secondary sources are found in any interdisciplinary field, but seem to be particularly complex in the case of popular culture. Of course, there are many guides to sources potentially relevant to the study of popular culture—too many to attempt a survey of them here. They include hundreds of somewhat general subject indexes to specific publications or groups of publications (e.g., *Readers' Guide,*[87] *New York Times Index,*[88] *Current Contents: Social & Behavioral Sciences*[89]), and there are many kinds of specialized subject indexes and abstracts in the humanities and social sciences. In specific areas of popular culture, there are even more bibliographic sources. An entire issue of *Library Trends* would be needed to review only the most important sources. At the present time, the best general bibliographic help that a library can provide is a resourceful reference librarian with a broad grasp of the field. For current materials, however, we now have a new reference source which will make the librarian's work less complicated.

ABSTRACTS OF POPULAR CULTURE

The initial publication of *Abstracts of Popular Culture* in the fall of 1976 was an indication of the increasing maturity of popular culture studies. The first quarterly issue, with more than 2,000 abstracts, selectively covers the contents of 188 periodicals. The editor plans the broadest possible coverage of both popular and scholarly sources, and to this end the abstractors scan 600 periodicals for relevant material. Abstracts are arranged alphabetically by names of authors, with the main subject access provided by an alphabetical subject index. A valuable feature is the inclusion of abstracts of unpublished studies, including papers read at the annual meetings of the PCA (and, in future issues, probably papers from many of the PCA regional meetings). Copies of these studies may be obtained from or located through the offices of the *Abstracts*. As this tool develops, it is likely that patterns will begin to emerge and that it will be possible to construct a classification system which will help us to conceptualize the structure of the field with its complicated approaches and interrelationships.

PRIMARY SOURCES

The bibliographic control of primary sources involves a massive number of tools, largely structured to deal with specific media. A single general guide, even if it were selective, is hardly conceivable and would probably be of doubtful value. As always, we have both problems of current and retrospective controls. Some areas of popular culture already have reasonably satisfactory controls. Consider, for example, the large number of bibliographic guides to commercial films, which will soon be supplemented by the American Film Institute's *Catalog of Motion Pictures*,[90] a work which will completely document the history of film in the United States from its beginnings in the 1890s. Popular music, both printed and recorded, has been the object of intensive bibliographic and discographic work. Several projects are now underway to provide comprehensive bibliographies of discographies. Comic books and science fiction have also found dedicated bibliographers, the latter genre now having an astonishing bibliographic apparatus.

Many of the best works dealing with primary sources are produced either by the commercial manufacturers and distributors of popular culture, or by collectors and nonacademic students. The recent work

by Sandberg and Weissman is an excellent example of the latter type. Its title, *The Folk Music Sourcebook*,[91] is more limited than its contents, for the authors cover printed, recorded, and filmed primary and secondary sources for such genres as the following—all of which I would consider popular culture (although they could just as well be identified as popular subculture): black gospel music, white sacred country music, all categories of blues, jug bands, country instrumental music, classical country and western music, country swing, Chicano music, and Cajun music.

What librarians now need is a general classified survey and guide to these sources, a bibliography of bibliographies of popular culture. Furthermore, the tools with which we educate young librarians (e.g., such texts as those by Asheim, Rogers, and Broadus[92]) do not take into account the current academic interest in popular culture. My assumption has been that libraries are primarily interested in commercially produced primary sources. On the other hand, libraries—in this case, principally public libraries—are in an excellent position to create primary sources by including the documentation of local popular culture in their local history programs, including oral history projects. Major urban areas (e.g., Detroit, Pittsburgh, Los Angeles, New York, Nashville) and many cities, large and small, offer tremendous possibilities for documenting both mainstream popular culture activities and the popular cultures of local ethnic neighborhoods.

PHYSICAL ACCESS

The central problem facing popular culture scholarship in general is access to current and retrospective primary sources. Thus, this is the most serious problem with which librarians must deal. The rise of popular culture studies has occurred during a decade when the economic resources of academic libraries have been severely restricted. This restriction has led to even greater emphasis by libraries on networks, resource sharing, cooperative acquisitions programs, and other developments which will clearly benefit the planning of a systematic approach to the provision of access to popular culture resources. The knowledge and resources to deal with more or less conventional print media are already available; but the provision of access to sound recordings and tapes of television broadcasts is a major problem. Librarians have had little experience in the legal aspects of copying such resources and have not traditionally supplied them on interlibrary loan.

Academic libraries already hold many special collections of popular culture, but most of these are historical materials. Among the twentieth-century genres, science fiction has probably been the one best served by academic libraries (the increasing respectability of science fiction was evident in 1976 when the house of Sotheby's had its first science fiction book sale).[93] The bulk of these resources can probably be located through a search of numerous library resource guides. However, the field is unique enough to suggest that the preparation of a separate guide to popular culture resources in the libraries of the United States and Canada would be a worthy undertaking. In fact, such a directory is needed before any extensive cooperative plans can be made for systematic acquisitions. Members of the PCA have been urged to send reports of special collections to the Center for the Study of Popular Culture, and it is not unlikely that a directory will one day emerge from these efforts.

The Library and Audio Center of the Center for the Study of Popular Culture seems to be the only special library completely dedicated to the collection of all types of popular culture resources. It is a multimedia collection without any limitations: "No item is too ephemeral for our consideration. In fact, the more insignificant an item may appear, the more value it may have for . . . [the] collections."[94] Academic librarians have not been unaware of the need to preserve some popular culture, as is evident in the holdings of the Center for Research Libraries (CRL). For example, CRL has a program to acquire comic books and popular periodicals selectively. CRL's policies, however, seem too restrictive to make much of a dent in the masses of current material. Note that among the current periodical acquisitions, the CRL's *Handbook* lists *Hit Parade[r]*.[95] Randomly selected issues of this basic source are no doubt useful; but a systematic collection of popular culture would have to include not only a complete run of *Hit Parader* but the seven other music periodicals issued by its publisher, Charleton Press, as well.[96]

Several recent events indicate the growing trend to organize special collections of nonbook materials and to provide access to them. The Museum of Broadcasting opened in New York in 1976. Apparently this is the first such institution—or at least the first on such a large scale—to be completely devoted to documenting the history of radio and television broadcasting. Beginning with a modest collection of 718 broadcasts, the museum anticipates that by 1980 it will have acquired 18,000 broadcasts on audio- and videotape.[97] During the

same year that the museum opened, two guides to audio broadcasts were published: (1) Pitts' *Radio Soundtracks*,[98] with listings of broadcasts available on tape and LP discs; and (2) Bensman's *Sources of Broadcast Audio Programming*,[99] which includes a catalog of more than one hundred collections. Also in 1976, the Bowker company issued Weber's *North American Film and Video Directory*,[100] which contains information on almost 2,000 institutional collections.

Considering the great interest in the use of audio and video broadcast materials, it is surprising that after the PCA published the first number of *Popular Culture Airwaves Bulletin* in 1974,[101] it was discontinued because there were not enough subscriptions to support the project. The chief purpose of the bulletin was to serve researchers by locating primary sources and by providing information of new publications, research and teaching programs. One would have thought that subscriptions from academic libraries alone would have made the project feasible. In the one issue published, Tedesco briefly outlined a proposal for a Message Systems Data Archive, a challenge that made not even a slight ripple in professional library organizations.[102]

A number of reprint houses have responded to higher education's interest in popular culture. Without attempting a thorough survey of these projects, a few examples may be worth mentioning. Xerox University Microfilms has announced a microfilm series to include such periodicals as *The Shadow* and *Success*. The Arno Press has a 27-volume historical reprint series of books originally published between 1800 and 1925. Several houses have science fiction reprint series, and the Garland Publishing company has a series of fifty classics of crime fiction. There are, of course, many other reprints, some of which are less ambitious but are equally important. Comic books and funnies have been extensively reprinted, and reissues of various forms of popular music on LP recordings are being produced in large quantities for the commercial market. An overall survey has not yet been made of needed resources by the PCA, or any library organization, in order to find out more precisely what is most needed in the way of reprints. On the other hand, some of the reprint houses seem to be getting good advice from their advisors and editors. But it is possible that some academic libraries, if better informed about the needs of popular culture research by some formal action of a professional organization, might find that their money would be better invested in current popular culture resources. This, of course, is the

potential danger of individual libraries dealing on an ad hoc basis with their own immediate academic needs without a larger framework of services to popular culture research as a whole.

At this point it would be commendable to outline an agenda for action, but this is clearly a task best accomplished within some framework involving formal representation from the PCA and several professional library organizations. Somewhere within the structure of the American Library Association there must be a place for a new committee or study group to consider all of the problems created by this new and exciting area of research.

I am firmly convinced that popular culture studies will continue on their present course, although at an accelerated rate. Many diverse disciplines will take increasing notice of popular culture, and at the same time its study will continue to develop as a separate discipline. In any case, attempts to understand popular culture and to study it in some systematic fashion will remain an important challenge to scholarship as long as popular culture continues to play such an important role in shaping our society. We cannot escape it, and its study has really only just begun. Everything we have seen of the mass media's diffusion of popular culture message systems during the past century indicates that its influence will not diminish in a country such as ours, where public media remain free of governmental restraints.

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Maps and Scholars

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RECENT YEARS HAVE witnessed a significant increase in the production of maps; in the number of libraries with separately administered map collections; and, perhaps most important of all, in the number and variety of map users. The collections have grown to include material from the earliest maps to current satellite imagery, although many collections are admittedly now limiting their programs to current maps. Furthermore, it may be proposed, it is the very awareness of maps, more than the libraries themselves, which has stimulated the great increase in map collections. How is today's map library different from its predecessors? How have the users changed? In what ways has the map undergone transformation as a carrier of information? Such questions will be reviewed in this paper.

The recent achievements may perhaps best be appreciated by comparing today's map collections with their predecessors. Although maps have been collected by individuals and libraries for many centuries, this discussion is best limited to the United States and to the availability of maps to American scholars. Discussion logically begins with the early nineteenth century, when it was only the occasional individual or private scholarly society that would collect maps or atlases.

The 1818 gift to Harvard University of the Ebeling collection, purchased by Israel Thorndike for $6,500, marks the beginning of map librarianship in America.[1] Until this time Harvard had few maps in its library; however, numerous geographies, atlases, and globes had been present, presumably intended for academic instruction.[2] The Ebeling map collection had been assembled by Christoph Daniel Ebeling in Germany to assist him in compiling his *Erdbeschriebung und Geschichte von Amerika.*[3] The gift made Harvard University the owner

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of the largest map collection in America, a distinction retained throughout most of the nineteenth century.

In 1851 a society was formed specifically to collect maps and geographical literature and to hold meetings at which travels and geographical exploration were emphasized. It is not surprising that the American Geographical Society (AGS) was formed in New York, where numerous businessmen, vitally concerned with the expansion of their own and other countries, viewed its services as important to them personally and professionally. The society's collections have grown to their present size primarily through gifts from members, small purchases, and many exchanges. The society's map collections have thus grown slowly, never reaching the magnitude of Harvard's, but have become nonetheless one of the major cartographic resources in the United States.

As westward expansion continued in nineteenth-century America, surveying increased, mostly either performed or financed by the U.S. government. Engineers, cartographers, and scholars became concerned with the inevitable duplication of effort by various agencies. Equally important, they noticed the lack of any central collection of maps in the government. Numerous requests were made, both in and outside of government, for a map collection which would centralize the many holdings of the various government agencies. Such a collection was slow in coming, but finally in 1897 a Map and Charts Division was formed at the Library of Congress. Now named the Geography and Map Division and temporarily housed in Alexandria, Virginia, the collection has grown to become the largest in America, with more than 3 million maps.[4]

These three collections—those of Harvard, the American Geographical Society (AGS), and the Library of Congress—represent both the beginnings of map collecting in America and the origins of map librarianship in three different kinds of institutions: academic, private, and governmental. How have these libraries changed since their inception? We must also ask: How have other map collections grown in the United States? It is particularly the growth of new collections which has had the most profound effect on map scholarship.

The most drastic changes have occurred in the academic sector; collections have been started at nearly every college and university, whether in the geography department or in the library. The Harvard collection has been surpassed in size by those at Illinois and UCLA, and numerous other map collections throughout the United States

now have more than 100,000 map sheets. The private sector has seen some expansion, although the American Geographical Society collection remains the largest as well as the most internationally prestigious. Several of the independent research libraries in the United States, such as the Newberry Library, the Bancroft Library, the William L. Clements Library, the John Carter Brown Library, and the Huntington Library, have also developed significant collections specializing in various aspects of the history of cartography. As the federal bureaucracy has expanded, numerous map collections have been created within many departments, although (at least in theory) all U.S.

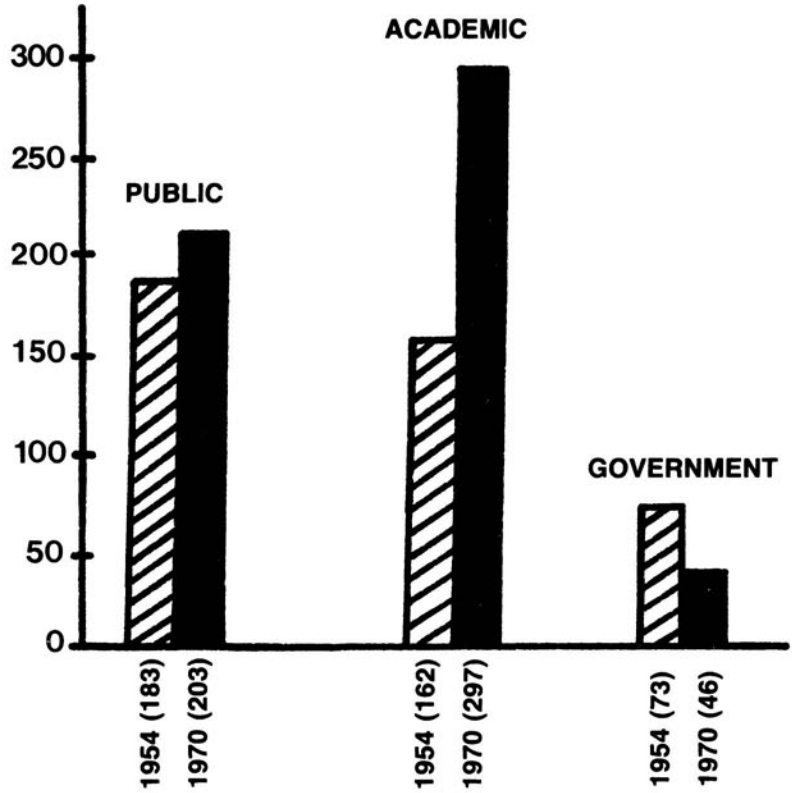

Figure 1. Growth of Map Libraries

Source: *See* Special Libraries Association. *Map Collections in the United States and Canada; A Directory.* New York, Special Libraries Association, 1954; and _____. *Map Collections in the United States and Canada; A Directory.* 2d ed. New York, Special Libraries Association, 1970.

cartographic publications are deposited with the Library of Congress. Figure 1 illustrates the growth of the number of map collections in the three sectors, based on data extrapolated from the 1954 and 1970 directories of map collections published by the Special Libraries Association.

What effect does this proliferation of collections have on the user? Essentially, it allows him more choice in where he works. He is no longer forced to rely on Harvard, AGS, or the Library of Congress, because early and current maps, along with related cartographic information, are available across the country.

It is my impression (a supposition, if you will) that the general layperson of the nineteenth and early twentieth centuries felt uncomfortable in the private libraries of those respective periods. These libraries, especially during the nineteenth century, were designed for the research scholar or for members of the private society which established the library. Because these private libraries, with their respective map collections and "closed membership," were the most predominant for some time, the average map user during the eighteenth, nineteenth, and early twentieth centuries is not comparable to today's average academic or governmental collection patron. As regional geography began to be studied, the map as an informational unit began its steady growth in importance in America. The proliferation of types of users has grown proportionately in recent times as new fields have come to depend on geoscientific information. The accelerated growth of map collections, particularly since the end of World War II, provides the first period of truly "public" map collections, simply because maps are now more accessible to the general public and on a broader scale.

An increasing awareness of maps has been particularly evident in many of the new fields involved in environmental data handling and measurement. Recent surveys at the University of Illinois and Southern Illinois University map collections have revealed the variety of users other than the traditional geography user.[5] The University of Illinois survey, involving more than 2,300 map users over a one-year period, showed substantial use by specialists in agriculture, anthropology, architecture, city planning, business, and engineering, as well as a nonmeasurable diversity in off-campus use. Use of maps for what was identified as research (36.2 percent) was exceeded only by that for class use (39.7 percent) and was followed by use for travel and recreation (23.1 percent). Another characteristic of the map user should be recalled here: although everyone may be interested in the

past, and thereby recognize the historic value of early maps, most map users habitually ask for the most recent map showing a particular area or subject. The emphasis on current maps is demonstrated in the Illinois survey, where historical map use (i.e. that concerned with maps dated before 1900) represented only 4 percent of the total.

Winearls has gone one step further in categorizing the major type of map users in an academic library:

I. Laymen, who have little background in map fundamentals and usually require very general maps;
II. Students or businessmen who have a minimum level of map fundamentals and use maps only occasionally;
III. Academics who have a good fundamental subject knowledge; who seldom think of maps as an information source; but who can nevertheless define their questions intelligently; and
IV. Other persons who have advanced subject knowledge and use maps often in their research or work.[6]

In the third category Winearls has described the most common and probably the most important scholarly user today. To be sure, many scholars are well aware of maps, but seldom think of them as an information source for their research. Humanistic and social science scholars seem to overlook map collections almost entirely, and a great deal of historical research is being done without the aid of readily available maps. It is more than a problem of access; collections are now available and accessible. Perhaps the answer lies in a traditional book orientation of scholars or in an inadequate geographical background in their education. It may also be that maps are being consulted outside of map libraries, of course, but one cannot be sure. As map users, historical and humanistic scholars, in the "academic" fields at any rate, are now outnumbered by scholars in the "applied" disciplines, such as urban planners, regional scientists, and landscape architects.

How has such scholarship affected the creation of new maps? As in so many fields, it has been the users and their research which have provided for the many profound changes in the conception and format of today's maps, map collecting, and cartobibliographical research. Specific maps are being made not only for the historian and the genealogist, but also the the geologist, the climatologist, the biologist, and many others. Librarians are also improving the bibliographical control for maps as they come to recognize the importance of maps as informational units. Maps are undergoing a renais-

sance—they have long been around, but are now finally being recognized by a myriad of users.

Information specialists tell us that there are perhaps more data recorded on a single modern topographic map than on most other documents of comparable size. It has been estimated that there are between 100 and 200 million computer bits of information on a topographic map.[7] The most important element recorded by a map, apart from the many bits of information, is its indication of time. Thrower has reminded us: "Viewed in its development through time, the map is a sensitive indicator of the changing thought of man, and few of his works seem to be such an excellent mirror of culture and civilization."[8] Regardless of how pervasive or expensive the processes used to accelerate its production (e.g., automation), any map is out of date by the time it is committed to paper, let alone published. Ironically, herein lies the value of the map: it symbolically reflects the nature of its subject as it was at a particular time. This characteristic is more important to the average user than he or she is likely to realize.

The map is, above all, a communicator of information; moreover, unlike many communication systems which convey messages in relatively complete and total form, the symbols (and in fact the actual design of the map) must be interpreted by the user. Robinson and Petchenik have described this difficulty: "The map (picture) is a singular form of communication, and it has few of the characteristics of what we call 'language,' namely, meaningful patterns of vocal sounds, and their corresponding written symbols. The two systems, map and language, are essentially incompatible."[9] Describing the map's limitations, they go on to state: "A map provides information about particular places, or provides specific images; in this sense it has both unique value and distinct limitations as a medium for communication."[10]

The study of the cognitive processes, of what a map "means," represents a relatively new dimension in cartography. Cartographers and geographers are borrowing principles from psychology to assist in their understanding of environmental perception, "mental maps," and map interpretation. The map suddenly becomes a psychological abstract; as Gould has stated, "The human landscape, in reality or abstracted and modeled as a map, is nothing more and nothing less than the spatial expression of the decisions of men."[11] Similarly, Robinson and Petchenik have proposed, "Maps are a construction, an abstraction, an arrangement of markings that relates to spatial 'reality' only by agreement, not by sensory testability."[12]

The very format of maps, it should be remembered, has undergone many changes since our late eighteenth-century scholars began collecting and studying maps in America. Because maps are an indicator of time, they are a cultural reflection of that time, both environmentally and technologically—and they will undoubtedly continue to change with time.[13] General topographic surveys have been replaced by improved large-scale surveys; in some cases, maps have been replaced by aerial photographs; and aerial photographs have been replaced by satellite imagery. Computer technology has given us computer cartography and the "on-demand" map. All of these advances are the result of "need-to-know" users who have requested information from various cartographic agencies and publishers. For instance, the relationship between cartographic advances and military mapping, is, and has long been, very strong.[14] War and its battlefields are not only a testing ground for weapons systems, but also for mapping systems. Ever since the Continental Army's need for maps in 1777, the military has been involved in cartographic production and research.

Other new formats represent new means of communicating information on a standard conventional map. In 1970, Riffe observed: "It appears that the permanent map is suffering under the burdens of a dual paradox: 1. through 400 years of evolution, the permanent map has been continuously improved, yet it has changed very little; and 2. although readily obtainable, acquisition of the most suitable map for a particular purpose is difficult."[15] His "permanent" map (one that occupies a finite amount of space) has changed very little physically perhaps; but as a communicator of information, it has improved immensely. The kinds of information displayed on maps today range from mercury pollution to income distribution; and the types of maps in use may be standard sheet maps, plastic relief models, or computer-simulated graphics.

Facsimiles of early cartographic documents represent another format. Although such publications have been available in the past, there has been a recent increase in facsimile cartography from a variety of commercial publishers, government agencies, and professional societies. This interest can be measured through Ristow's *Facsimiles of Rare Historical Maps*,[16] a bibliography which has grown from a 6-page mimeographed list in 1960 to a 20-page publication in 1968 with a 5-page supplement in 1971. Not unlike other publications, there are high-quality map facsimiles and inferior facsimiles. The number of reputable dealers who are providing high-quality reproductions at

reasonable prices include: (1) Theatrvm Orbis Terrarvm, specializing in facsimile atlases; (2) Historic Urban Plans, specializing in facsimiles of early city plans and views worldwide; and (3) Harry Margary, who has reproduced numerous eighteenth-century county maps of England and, recently, a series of early American maps. Such facsimiles allow the elusive and valuable map to be owned by any library or scholar interested in a particular period of history or in maps drawn by a specific cartographer. Because of the continuing scarcity of original and unique cartographic materials, coupled with the costs of travel, the scholar may find himself depending more on facsimile maps in the future. Of the imaginative formats recently involved, color microfilm was used to reprint some of the early atlases in the American Geographical Society. Unsuccessful as this method proved to be financially, it shows one of the ways in which reproductions may be offered to the scholar in the future.

The most common method of reproducing maps one at a time is, and has been for some time, the photostat. This process is especially appropriate for maps, which are usually viewed as "oversize" documents by book standards. Modern photoduplication services are usually available in major libraries, and the scholar can order and quickly receive photocopies which are legible and often only slightly reduced in scale. Photocopying will continue to be called on extensively in the future, not only for immediate use by the scholar, but also for acquisition by individual libraries in anticipation of future use. Photoreproductions are considerably less expensive than original copies or often even facsimiles, and for many uses they can serve as satisfactory substitutes. Nevertheless, as Lahood has emphasized: "How to achieve the goal of high production of photographic and microphotographic duplicates of maps is not now evident. There remains the dilemma of high cost of labor and materials coupled with the uncertain life expectancy of such a vehicle."[17] For experimental purposes and where cost is not a factor, color reproduction quality is satisfactory; except when the market is immense, however, mass production is not yet feasible. Aside from being appropriate only for black-and-white reproduction, today's common photocopying processes are badly suited to the variable type sizes and large sheet sizes of maps; moreover, in some processes, certain color combinations may not reproduce well. Xerox and similar processes are appropriate only for the very simple outline map, for instance, and give very low-quality reproduction for any other purpose. The problems of photocopying maps have been well constructed in Ehrenberg's analogy:

> The map custodian is caught in the center of a triangle of diverging interests. On the one side is the map user who demands reproductions of maps without delays or interference. On another are future generations of map users who also have a claim upon our historical heritage and therefore an interest in the preservation of contemporary maps, authors who wish to protect their investment in skill and time, and government agencies concerned with national security. On the third side of our triangle of self-interests is the photographer, a technician skilled in reproducing maps, who must perforce be concerned with assembly-line techniques, profit margins, and production quotas.[18]

Numerous monograph works on the history of cartography, meanwhile, are also being reprinted for scholars working in this growing field. The most important of these reprints are Phillips's *List of Maps in the Library of Congress* and his *List of Geographical Atlases in the Library of Congress.*[19] Soon to be released by Meridian Publishing Company (Amsterdam) is Louis Karpinski's *Bibliography of the Printed Maps of Michigan.* Similarly, atlas facsimiles are being offered by a host of publishers, while journal articles on the history of cartography are being reprinted in *Acta Cartographica.*[20]

The publishing of library catalogs and cartobibliographies has been, and should continue to be, the single most important benefit to map scholarship. The published catalog of a library transports its card catalog to the scholar, providing bibliographical information on each map in that library. Unfortunately, this data varies from catalog to catalog, not only in quality, but also in quantity, accuracy, and legibility of type. The most important map catalogs now available are those from the British Library (15v., 1967), the New York Public Library (10v., 1971), the William L. Clements Library (4v., 1972), and the Bancroft Library (1975). A 10-volume catalog listing those maps and atlases in the National Map Collection of Canada will appear in the near future. Two catalogs of related interest and importance are the *American Geographical Society Index to Maps in Books and Periodicals* (10v., 1968) and *The Library of Congress Bibliography of Cartography* (5v., 1973). The latter catalog records the articles and books dealing with cartography which have been indexed at the Library of Congress Geography and Map Division since 1897, and includes an estimated 90,000 entries.

Equally valuable are the cartobibliographies which have appeared over the years. Most of these are regional or local lists, which include

locations. They, too, vary in quality and comprehensiveness, but they can also provide invaluable information for the scholar, and save considerable amounts of time. Because some of these bibliographies are available in journals, access to them can often be difficult. A bibliography of cartobibliographies is much needed; however, the following list includes some of the major works:

1. Birmingham Public Library. *A List of Nineteenth Century Maps of the State of Alabama.* Birmingham, Ala., Birmingham Public Library, 1973. 253p.
2. Brown, Lloyd Arnold. *Early Maps of the Ohio Valley.* Pittsburgh, University of Pittsburgh Press, 1959. 132p.
3. Chapin, Edward L. *A Selected Bibliography of Southern California Maps.* Berkeley, University of California Press, 1953. 124p.
4. Cobb, David A. "Special Double Issue: Vermont Maps Prior to 1900; An Annotated Cartobibliography," *Vermont History* 39:1-146, Summer and Fall 1971.
5. Cumming, William P. *The Southeast in Early Maps.* Princeton, Princeton University Press, 1958. 275p.
6. Day, James M., comp. *Maps of Texas, 1527-1900.* Austin, Tex., Pemberton Press, 1964. 178p.
7. Koerner, Alberta G. *Detroit and Vicinity before 1900.* Washington, D.C., Library of Congress, 1968. 84p.
8. Miles, William, comp. *Michigan Atlases and Plat Books: A Checklist 1872-1973.* Lansing, Michigan Department of Education, State Library Services, 1975. 178p.
9. Modelski, Andrew M., comp. *Railroad Maps of the United States: A Selective Annotated Bibliography of Original 19th-Century Maps in the Geography and Map Division of the Library of Congress.* Washington, D.C., Library of Congress, 1975. 112p.
10. Nebenzahl, Kenneth. *A Bibliography of Printed Battle Plans of the American Revolution, 1775-1795.* Chicago, University of Chicago Press, 1975. 159p.
11. Wagner, Henry R. *The Cartography of the Northwest Coast of America to the Year 1800.* 2 vols. Berkeley, University of California Press, 1937.
12. Wheat, James Clements, and Brun, Christian. *Maps and Charts Published in America Before 1800; A Bibliography.* New Haven, Conn., Yale University Press, 1969. 215p.

Cartobibliographical research is progressing at a healthy rate, and scholars now find the task of locating maps considerably simpler.

Cartobibliographies published in the future should make the problem of location even easier. To this end, the Midwest Map Catalog has undertaken the identification of all pre-1900 maps in the major libraries of six midwestern states. Upon completion of the project, its lists will be published in printed catalogs with consistent and standard bibliographical descriptions. Phase II of this project is already being planned, adding six states west of the Mississippi; presumably, future projects could extend the coverage to the remainder of the United States.

Problems with map cataloging have plagued both map librarians and scholars with respect to map retrieval. The practices of cataloging maps by author or by some similar personal main entry, as opposed to area, have often been debated. Acceptance of the International Standard Bibliographical Description for Cartographic Materials (ISBD(CM)), and, more importantly, the development of machine-readable map cataloging will perhaps settle the argument once and for all. Specifically, the acceptance of international standards, coupled with on-line automated cataloging, is expected to provide the user with so many access points to each record that the reliance on one single main entry will disappear altogether. Consistent and standardized map cataloging on a national scale, possible only through automated processes, will provide innumerable advantages to the scholar.

The future holds many promising developments for map collections and for the scholars who use them. Automated cataloging should provide quicker and more accurate bibliographical control of map collections. The development of on-line data bases, such as the Ohio College Library Center and others, probably represents the real future for retrieval of cartographic information. As each of the different automated systems expand, interfaces will be developed among the systems themselves in order to provide the user access to international computer bases. Librarians and scholars will soon be able to search a computer miles away, to receive standardized bibliographic information for any particular map and to be given its location—and all of this, presumably, almost instantaneously.

The financed costs of maintaining a map collection, on the other hand, may deter the growth of new collections in the United States and elsewhere and prevent the development of any major new ones. Today's large collections will probably become larger, although it should be noted that many of our private institutions and public

libraries seem to be reevaluating their commitment to map collecting. Spiraling costs could result in relocation of some collections and the consolidation of others until only current maps are included.

The future users of maps and map collections will likely continue to be associated primarily with the geosciences, ranging from the field geologist to the city planner. Scholars interested in early maps and in the history of cartography will always be present, remaining, however, in the prestigious minority of today's users although their requests may well continue to be the most demanding. The major map collections will continue to grow in the twentieth century; advanced technologies will improve the control, access, and retrieval of maps for all types of users in the future.

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Musicology and the Music Library

HAROLD E. SAMUEL

MUSICOLOGY IS A comparatively young academic discipline. Although the study of music is ancient, it was well into the second half of the nineteenth century when scientific methods of research were adopted, leading to the foundation of musicology and its admission to the curriculum of the university. Chairs in musicology were first established in Vienna and Prague, but Germany soon became the leader, and by 1914 almost every German university had created a position for a musicologist. Assuming at least a basic training in music, a musicologist is chiefly a historian, although he may call on, or even specialize in, areas such as acoustics, psychology, aesthetics, and paleography.

What an exciting time were the first fifty years! Musical documents had to be unearthed, the works of individual composers brought together, biographical facts determined, stylistic schools and periods established, and the evolution of musical forms traced. The prehistory of music is extraordinarily long, for the notation of music is vague until the twelfth century, and few compositions prior to the thirteenth century have come down to us. Until about 1600 the notation of music was quite different from our present system, so this early music must be transcribed for study and performance. By 1914 the musicologists, mostly German, had collected and published in monumental editions the complete works of Bach, Handel, Beethoven, Mozart, Palestrina, Schütz, Schumann, and Mendelssohn, among others; issued multiple-volume sets of early music organized by country and designated "national Denkmäler"; compiled extensive biographical and general music dictionaries; published a 10-volume bibliography of pre-1800 musical sources; founded several journals giving results of research; and written general histories of music and expansive biographies of several major composers.

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Non-German universities were slower to recognize musicology, so many of the scholars worked outside the university hierarchy. Much research was nevertheless accomplished in all European countries between the two world wars, and in 1930 the first American chair in musicology was established at Cornell University. Two other American landmarks are the foundings of the Music Library Association in 1932 and of the American Musicological Society in 1934. The first American musicologists were largely trained in Europe, and back home they continued their research in western European music, which was also the subject of their teachings at the university. The concentration on European rather than American music might not have continued had it not been for two factors: (1) the newly developed technique of microfilm, which provided European source material to the American viewer; and (2) the influx of European musicologists who fled Nazi Germany and accepted positions newly established at American universities.

Since World War II, misicology in the United States has mushroomed. In 1931, seven schools had doctoral programs in musicology, and only five degrees had been awarded, all by one of the institutions.[1] It was not until 1939 that all seven schools had awarded at least one Ph.D. By 1952, 132 doctorates had been conferred; five years later this figure had tripled to 392. It grew to 523 in 1962, 802 in 1965, 1,327 in 1970, and 1,494 in 1972. The number of dissertations in progress increased from 208 in 1957 to 793 in 1972. Miloš Velimirović has estimated that "if this growth-rate is projected to 1980, we can easily have close to 3,000 Ph.D.'s in musicology and anywhere between 1,000 and 1,500 dissertations in progress at that time."[2] The number of schools offering a doctorate in musicology had grown to thirty-seven by 1961 and fifty-six in 1970, although only forty-seven had actually awarded degrees.

Given the current economic state of our schools, resulting in a cessation of growth or even in cutbacks of their faculties, the projected growth rate of Ph.D.'s in musicology will probably lead to a high rate of unemployment. This suggests that some of the doctoral programs at the fifty-six schools will not survive. Which ones might they be? The newest programs come first to mind, for their faculties, reputations, and library holdings are not yet adequately developed. Yet the momentum gained from the battles to initiate a program might carry them through to survival. On the other hand, one could speculate that the leaders of the oldest programs have such a strong sense of responsibility to the profession that they would drastically

reduce or even eliminate their programs in order to lessen the forthcoming unemployment. Surely a central consideration in this dilemma must be the library holdings necessary to support the doctoral programs.

The growth of musicology in the United States naturally brought on a corresponding proliferation of music libraries. By about 1920 separate music collections were well established, chiefly at the Library of Congress, at public libraries in New York, Boston, and Brooklyn, and at the Eastman School of Music and Yale University. The number of separate music collections at academic institutions (that is, excluding public library collections and academic collections housed in the general library) had grown to perhaps thirty by 1950, and today the figure is at least ninety-one.[3] A recently published *Directory of Music Librarians in the United States and Canada*[4] lists the names of 592 persons claiming to have primary responsibility for a music collection. The Music Library Association currently has 1,800 members, including librarians, teachers, performers, institutions, publishers, and others with a general interest in music bibliography and libraries. The vast majority of today's music libraries, however, do not have collections adequate for the support of their academic programs. As is often the case for other fields, degree programs in music were initiated before the libraries were equipped to serve them, and the libraries have still not caught up.

Because musicology is solely a graduate research program, our concern here is for music research libraries supporting doctoral programs in musicology. What is an "adequate" collection for such a library? Teachers, doctoral candidates and librarians would probably agree that it should consist of at least 50,000 volumes of books and scores (including the standard music dictionaries, bibliographies, monographs, biographies, complete runs of periodicals, editions of composers' complete works, Denkmäler, and performing editions of the concert repertory), subscriptions to about 250 journals, at least 10,000 LP recordings, and a minimum annual book, score, and record budget of $25,000 for current acquisitions. Of the 56 schools offering a Ph.D. in musicology, only 25 are identified in the *Directory of Music Research Libraries* as having 50,000 or more volumes: (The latter figure includes libraries having between 30,000 and 50,000 volumes in 1967, the date of the directory.) Thus in this paper "the trends in musicology and how they affect the music library" are being discussed before our libraries have caught up to the rapid growth of

musicology since World War II—before over one-half of our music libraries have acquired the basic tools of research in musicology.

In reference to the earlier question of which of the fifty-six doctoral programs might survive, the administrations of schools with inadequate music libraries should ask whether they will be able to invest large amounts of money to bring their library holdings up to an acceptable standard. The addition of 20,000 volumes at an average cost of $20 per volume for acquisition, cataloging and binding comes to $400,000. Added to this would be a steady annual acquisition of about 4,000 volumes of current publications, or $80,000 to sustain the collection.

Before turning to recent trends in the study of music, a minor matter of acquisitions should be noted. With the loss of German scholars by emigration in the 1930s and the lapse of research and student training in the 1940s, the quality of German scholarship varies greatly today, and world leadership in musicology has passed from Germany to the United States. In earlier decades librarians hardly questioned the quality of a German publication and placed standing orders for as many series of German monographs as could be afforded. Today the librarian should question each of these standing orders and cancel those that are not worthy of attention. We have been slow to recognize that such publications are no longer essential just because they are German.

Musicology, like other fields of study, is in an age of specialization. As early as the 1950s, doctoral seminars in musicology no longer aimed at producing generalists capable of covering the whole of music history and of relating it to other disciplines. Areas of specialization might be a national stylistic period, such as the music of the French baroque; or a type of music, such as early Italian opera or the eighteenth-century concerto; or an aspect of music, such as music theory in the sixteenth century or the performance practices of an instrument and era. Librarians should keep in mind that specialization spawns isolation and leads to narrow outlooks. The librarian must not be overly influenced by the specialties of individual scholars in his department and must take the responsibility for selecting a balanced collection.

A popular area of specialization for American students was until recently the Renaissance, which was the specialty of several of the German immigrants in the 1930s. A common project was to select a Renaissance composer, collect his works on microfilm, and prepare a dissertation consisting of an analysis and transcription of the music.

While Renaissance and baroque topics were being favored, the nineteenth century was neglected, although—or perhaps because—it embraces the concert music most familiar to us today. As seems often the case in dissertation topics in all fields, the more esoteric the better. Beginning about a decade ago, however, perhaps as significant Renaissance and baroque topics became less easy to find, the wealth of nineteenth-century topics became more acceptable. This is confirmed by a comparative survey of dissertation topics completed and in progress in the United States, as reported by Cecil Adkins in (1) a list of all topics prior to 1971,[5] and (2) the annual supplements to that list appearing in the fall issues of the *Journal of the American Musicological Society* for the years 1971 through 1974. Adkins lists the dissertations by stylistic period, and Table 1 compares the percentages prior to 1971 with those for the last four years (see Table 1).

TABLE 1

COMPARISON OF MUSICOLOGY DISSERTATION TOPICS BY STYLISTIC PERIOD

Period	Percentage prior to 1971	Percentage 1971-74
General & Misc.	8	7
Middle Ages	6	4.5
Renaissance	19	13
Baroque	20	15.5
Classical	13	13
Romantic	12	17
Contemporary	22	30

Source: Adkins, Cecil, ed. *Doctoral Dissertations in Musicology*. 5th ed. Philadelphia, American Musicological Society, 1971; and annual supplements appear in *Journal of the American Musicological Society* 24:414-48, Fall 1971; 25:428-67, Fall 1972; 26:440-79, Fall 1973; 27:475-514, Fall 1974.

Had it been convenient to compare the last ten years to the period before 1965, which is about the time the trend toward nineteenth-century specialization began, the comparative percentages would probably have been more convincing. As it is, we see that general (covering overlapping periods) and miscellaneous, medieval, and classical topics remain about the same, Renaissance topics decreased by one-third and baroque topics by one-quarter, while nineteenth-century and contemporary topics each increased by one-third. As we

move further into the twentieth century, its history becomes longer, and more topics become subjects for research. Librarians in charge of research collections must keep this constantly in mind. Just as the Hemingways of literature leave the category of current fiction and become classic topics for research, so do the Poulencs and Prokofievs of music lose the designation "modern music" and become subjects for historical study. A major difference is that relatively few of Hemingway's works will go out of print in the near future, while the works of his musical counterparts might already be unavailable. The research librarian is advised to compile a list of twentieth-century composers ranging from Debussy to Stockhausen whose works are apt to be of interest to posterity (a list of seventy-five is easily compiled), and acquire all of their works in all editions, as well as all of the chief writings about them. As a supplement to this, each research library should be responsible for the acquisition and protection of the published and unpublished works of lesser-known composers living in the geographical area of the library.

The complete works of most of the major nineteenth-century composers are available in monumental, authentic editions, already issued or in progress. The research librarian must be concerned now with lesser nineteenth-century figures, whose music is finally receiving attention from both historians and performers. Although we still might smile upon hearing some of this music, the former grins are now only smiles and, furthermore, we are interested sociologically in this music as a reflection of its time. We are more willing to accept it on nonmusical terms. Fortunate is the library today whose curator began collecting twenty years ago the works of composers such as Auber, Bellini, Clementi, Donizetti, Hummel, Kalkbrenner, and Rossini; at that time these works were widely available and the prices were embarrassingly low. Today they are in the catalogs of rare book dealers at prices few libraries can afford.

Some of this nineteenth-century music is still on library shelves and available for public circulation. Bibliographies of early music publications, as well as Library of Congress subject headings, have traditionally used the year 1800 as the dividing line between early and modern music. This has been the practice for seventy-five years, and it is time to revise it. All publications between 1800 and, at the very least, 1850 or 1860 should be transferred from the open stacks to the music library's rare book section.

Trends referred to thus far have concerned primarily music stemming from western Europe. This music has always been of major

interest to American musicologists and will undoubtedly so continue in the foreseeable future, for it remains our standard concert fare. Non-European music, however, much of which has been totally ignored until recently, is now receiving attention from an increasing number of scholars. Three new areas of specialization are (1) popular music, (2) the so-called "serious" music of the United States, and (3) the ethnic music collected by ethnomusicologists. Libraries have been slow in their support of these new directions of research.

Ethnomusicology is as old as musicology, and until recently was considered a branch of the latter, designated "comparative musicology." The ethnomusicologist is concerned with non-Western and folk music and their relations to society. The ethnomusicologist's resources are current examples from oral traditions, so the emphasis of research is more descriptive than historical, and the methods stem from both musicology and anthropology. It is generally agreed today that ethnomusicology and musicology are not separate fields of study. The argument is whether the collective term should be *ethnomusicology*, with *musicology* as a branch for the study of Western concert music, or whether the term *ethnomusicology* should be eliminated, and *musicology* embrace all geographical and topical branches of musical study. While the discussion goes on, the two areas retain their separate identities, reflected officially by the American Musicological Society with its 2,878 members and the Society for Ethnomusicology with its 1,954 members (both as of 1975). Until the formation of the latter organization in 1956, matters of ethnomusicology were included on the programs of the annual meetings of the American Musicological Society.

Ethnomusicology is growing faster than any other graduate study in music, and more and more colleges are recognizing a need to add knowledge of non-Western cultures to the student's general education. Researchers have only scratched the surfaces of possible topics, so the field will surely continue the rapid growth it has experienced since World War II; its scholars will become more prominent on music faculties, and its publications more noticeable on library budgets. The number of printed publications devoted entirely to ethnomusicology is not large. Most writings are found in the literature of musicology, anthropology and folklore. Because ethnomusicology deals with an oral tradition, the bulk of the study material is in the form of recordings, both private and commercial. The invention of sound recording was, of course, a prime factor in the development of ethnomusicology, and fortunately it was used from the very begin-

ning in the nineteenth century for the collection of raw material. Since the 1950s, when the recording industry burgeoned, a great number of commercial recordings have been issued. Here the librarian needs the aid of reviews by specialists for the evaluation of authenticity, for many of the commercial recordings are intended only as entertainment. Because urbanization contaminates traditional folk music styles, it is essential that field recordings, both private and commercial, be as authentic as possible, for they will be used for the repeated hearings of researchers as they make transcriptions and analyses. Major archives for the preservation and classification of these recordings have been established in the United States at the Library of Congress, Indiana University, Northwestern University, and UCLA, and since 1960 smaller archives have been established at other American institutions. Much work needs to be done with the classification of this material and the centralization of the information allowing researchers to make comparative studies.

The ethnomusicological practice of accepting music as it is found regardless of its intrinsic musical value, and of relating the music to the society that created it in the manner of an anthropologist, has unquestionably affected the outlook of musicologists. As a young discipline, musicology had to concern itself largely with the identification, development and history of musical styles, neglecting social factors such as studies of musical organizations, the social positions of musicians, the development of music publishing, the economics of music, the creation of audiences, and other social influences on the style of music. Specific stylistic studies will, of course, continue to dominate the musicologist's time, for much remains to be done, and periodic reevaluations of earlier studies are necessary. Inquiries into nonmusical aspects of the time are already being widened and will continue to grow, however, so that music students will no longer be able to isolate themselves in the music library—which pleases the teachers who have been encouraging this for decades. While we are in an age of specialization, as noted earlier, perhaps the current trend is to become a nonmusical generalist within the musical area of specialization. Furthermore, the practice of accepting music as it is found has encouraged new areas of specialization, especially popular music and the history of American music.

The division of music into popular and serious types came about gradually through the nineteenth century and has persisted by and large down to the present. The wide acceptance today of jazz music, and more recently of rock music, and the adoption of aspects of their

musical styles by composers of innovative concert music have brought the two divisions closer together. Some observers claim the worlds of popular and serious music are already joined. Be that as it may, popular music is now an area of specialization acceptable to an increasing number of music graduate faculties. Jazz is America's major contribution to the art of music, yet the bulk of its research has been done not here, but in Europe. As jazz is largely improvisatory, which is to say, is mostly an oral tradition, libraries must prepare for future research by amassing extensive collections of recordings.

Another neglected area of American popular music is the vast mass of sheet music published from early in the nineteenth century until World War II, when commercial recordings replaced musicmaking in the home. It has been estimated that close to one million musical items were published in the United States in the nineteenth century. Large accumulations of this music are lying uncataloged in our libraries, and much more is rotting in the basements and attics of private homes. Because of its generally scant musical value, scholars have neglected this sheet music until recently, yet it not only represents the beginning of uniquely American music but was used as a vehicle for social change. Libraries must undertake cooperative cataloging of this material, noting, perhaps with the aid of the computer, information about the lithographed covers and their designers; full information about the publishers and copyright dates, the authors and topics of the texts; portraits; dedicatees; and, of course, the composer. Only after such cataloging has been completed can histories of these facets of American life be written. The guiding principle should be that nothing is trivial to a cultural historian.

Until the 1950s, American interest in contemporary concert music was devoted to the works of European composers, culminating in Stravinsky, Schoenberg, Bartók, and Hindemith, all of whom spent the late years of their lives in the United States and form the last foreseeable importation of composers. The breakthrough in acceptance of the music of Charles Ives and Carl Ruggles in the 1950s gradually overcame the rule that something must be fragile, foreign, or famous to be considered for research and performance. We have become tolerant and willing to accept each work on its own terms. The existence today of a half-dozen centers for the study of American music, and thus an increase in the number of students working on American topics, testify that American music is coming of age. (It is too early to judge the long-range effect of the impetus provided by the Bicentennial, especially the financial support provided by gov-

ernment research agencies.) Libraries, too, have neglected American music and are only now beginning to give more attention to their holdings of this material and to the filling of gaps in their collections. Some of the published music of neglected composers such as Henry Cowell, Roy Harris, Arthur Shepherd, Bernard Rogers, and Quincy Porter are still in print and should be widely acquired. Out-of-print works must be found on the secondhand market, and the manuscripts and private papers of American composers, if not already deposited in a library, must be sought out and processed for archival collections. Until now, music libraries have at best merely responded to the immediate needs of their patrons, who were concerned principally with the concert repertory. Ideally, libraries should have been collecting musical evidence of all kinds. The needs of the patrons are now changing, and the libraries are not prepared.

Two trends in collegiate music programs which are related only in part to musicology but affect music libraries are: (1) a greater emphasis on performance, and (2) an increase in the number of undergraduates majoring in music. Performance has always been an integral part of our college music program—unlike European training, in which performance and theory are taught at conservatories, while the university curriculum is limited to musicology. Some American doctoral programs were influenced by the European emigrants of the 1930s, who brought with them the traditional division of performance and scholarship. That shackle has now been largely shaken, so that most faculties of musicology insist that their students attain a high level of ability as performers. This has proven in recent years to be a wise requirement, for as the number of available positions declines, it has often become necessary for recent graduates to combine the teaching of performance with that of academic subjects. Too many faculties of performance, unfortunately, have not insisted that their students be adequately exposed to music history and theory. As a result, few of these students are prepared for the positions combining performance with the teaching of academic subjects; moreover, they are not becoming acquainted with the findings of music historians, which could be applied to performance practices.

Since the late 1960s, at the time of student disillusionment with the sciences, the number of undergraduates majoring in music has steadily increased to the point of doubling or even tripling the size of these programs at many institutions. The new students are of a somewhat different breed. They rightly think of music as sound, as something to be heard, and they want to make music themselves.

Furthermore, many of them arrive with a healthy curiosity for, and occasionally with a corresponding familiarity with, a large variety of musical sounds from several stylistic eras, perhaps brought on by the myriad of available commercial recordings which have become a common part of our lives. Many of these students have no plans for advanced study in music or for a career in the business world of music. They have simply adopted music as the major subject for a general education in the humanities, and upon graduation will turn to graduate study in other fields, such as medicine, law, foreign languages, or library science. Such students have a large interest in interdisciplinary studies, and to meet this need appropriate courses are being established at many schools. For the music library, this means more cooperation with other branches of the library system, and a determined effort to avoid duplication of acquisitions.

At about thirty institutions across the country, yet a third source has created an increased need for performing editions. During the enormous expansion of college education after World War II, and especially during the establishment of new branches of state universities, college administrators (due largely to the insistence of state legislators) required doctoral degrees for their faculty members in order, it was believed, to assure high standards in classroom teaching and institutional reputation. Doctoral programs in musicology fulfilled this requirement for the scholars, but new programs had to be established for conductors and performers, who until then had succeeded with musical talents and with formal training usually not exceeding a master's degree. The new degree programs were designated "Doctor of Musical Arts" (D.M.A.) and enabled performers to receive a doctorate by lengthening the period of formal training on their instruments and by adding historical and theoretical courses to their schedules, thus extending their residency normally by two years past a master's program. D.M.A. programs assume that during the course of study, the candidate in oboe, for example, will become acquainted with the entire literature for the instrument, as well as the history of its performance practice and all writings about the instrument and its performers. Anything short of this makes a sham of the doctorate, yet these goals cannot be reached if the candidate's library does not have the required material among its holdings.

Thus three programs—the Ph.D., the undergraduate major, and the D.M.A.—have brought about an increased need for performing editions. Unfortunately, the response to this need has been far too inadequate at most libraries. Music libraries generally are missing a

marvelous educational opportunity—in fact, they are neglecting their responsibility—by not having available a vast array of performing editions for all media. It is as if the college or university library had available for circulation only a few selected works of Hawthorne, Huxley and Hobbes. Unquestionably, this is the major shortcoming of music libraries across the country. The blame must be shared by librarians and teachers alike. Librarians have set their goals too low and have not persisted in the quest for adequate funds. Scholars have too long neglected the library's need for performing editions and have not added their voice to the plea for proper financing. Teachers of performance are too often caught up in the warhorses of their repertory and do not provoke their students to a broadened outlook.

Increased funds are difficult to come by now that the boom of the 1950s and 1960s, supported by federal and state funds, has ended for higher education—but this hardship has had its good points as well. Now in a period of slow or no growth, faculties are no longer transient as they were during the previous two decades, when offers from other institutions motivated bargaining such as teaching only graduate courses or acquiring for the library extensive materials in the researcher's area of specialization. Faculties today have a greater interest in their present (which is probably also their future) institution, and the librarian has a freer hand in the development of a balanced collection. Furthermore, the art of teaching receives more attention today, as the job market has turned to favor the employer.

For libraries, the end of the boom has led to a consolidation of what they already have. Most conspicuous are the numerous systems of cooperative sharing of resources among libraries of a geographical area. Librarians are now telling patrons, perhaps for the first time, that the library lacks a requested work, it will not be acquired, but in due time a copy can be borrowed from a cooperating neighbor. Some libraries are now charging a fee for interlibrary loans to institutions outside their systems. This practice may be a prelude to fees for the use of rare material, the acquisition, processing, storage and circulation of which are such a burden on the library budget. Consolidation is also the byword in matters of preservation, not only in the identification of and proper storage for rare books, but also by photoduplicate replacement of the thousands of more recent works on paper which is disintegrating. In the field of music, as in other fields, commercial facsimile editions of secondary sources have been extremely helpful in filling the gaps of young collections and in replacing worn copies. At the beginning of the reprinting flurry, the

librarian's rule of thumb could be that "if it is worth reprinting, it is worth acquiring." Although the supply of musical writings worthy of reprinting was for the most part exhausted a few years ago, some publishers continue the business by issuing works that have long been superseded. Other publishers have turned to facsimile editions of primary sources, both printed and manuscript, but a small market necessitates high prices, and few libraries can afford the acquisition of this desirable material. Another economic factor which, like cooperative library systems, affects the tempo of library service is today's extraordinarily high cost of construction. A basic premise of libraries is that their collections will expand and additional housing will be required periodically. Today the "additional housing" is often a storage area some distance from the library itself, and a patron must wait several hours or even a day for delivery of a requested book.

In summary, until World War II and perhaps even until the 1960s, it was possible for the music librarian to develop an elite collection consisting mostly of materials relating to the so-called "serious" music of western Europe, the chief concern of the young field of musicology. The upsurge of interest in the nineteenth century in ethnomusicology, popular music, American music, and performance has, however, considerably broadened the basis of music for performance and research. This occurred at the very time that funds diminished, making it difficult for libraries to expand; unfortunately, it also occurred before newly established libraries had acquired collections adequate for the support of the many new doctoral programs in musicology.

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The Historian and Social Science Data Archives in the United States

ALLAN G. BOGUE

DURING THE PAST thirty years social scientists have learned that quantitative data, when converted to machine-readable form in the course of even relatively modest research projects, may also be useful to scholars interested in other research problems as well as to those who wish to use it for replicative research. When a source is so rich that it provides data for many scholars working on different kinds of research in a variety of disciplines, the utility of placing it in standard machine-readable format ready for easy distribution becomes readily apparent. The onerous tasks of conversion would then need be undertaken only once; subsequent investigators can begin their research at the stage of analysis, and an almost incalculable amount of time and labor can be saved within the research community. Such is the rationale that underlies the development of machine-readable data archives. Does it also apply to historical data as well as to data generated by survey analysis and the contemporary activity of governments, business firms and other societal institutions? Certainly there are important historical sources that are quantitative in nature, or that can be converted to quantitative form. Historians active in research are comparable in number to researchers in the more populous social science disciplines and some of them have created or helped to create machine-readable data files. The analogy can be pushed too far, however, and in this article I will discuss the degree to which historians have been involved in the data archiving movement and the challenges it presents to their discipline.

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This essay also appears, in a slightly different form, in *American Behavioral Scientist* 19:419-42, April 1976, and is reprinted by permission of its publishers, Sage Publications, Inc., © 1976.

Today machine-readable data files of interest to researchers in the social sciences and history are found in a variety of locations. Individuals who have completed research on a project, or advanced it to the point where they are willing to make their data available to other researchers, hold important files in their personal possession. On the other hand one finds large, nationally oriented data archives that maintain a considerable library of data files available for distribution under institutionalized arrangements and which are continuing to add new data files to their holdings as the result of the activities of affiliated or cooperating research groups or individuals. In the latter category the Inter-University Consortium for Political and Social Research (ICPR) and the Roper Public Opinion Research Center are the outstanding illustrations, the former preeminently academic in orientation and the latter operating in the private sector as well. A number of smaller archival agencies stand between the two extremes in the United States, their activities circumscribed by regional, state, institutional or subject matter boundaries.[1]

The smaller agencies emphasize various activities depending on their unique purposes and institutional needs. Thus, investigators in various survey research centers based in universities have been primarily concerned with conducting public opinion surveys required by the researchers of the parent institution, and data archiving has been little more than a storage and servicing operation incident to the needs of local investigators. Other agencies have developed more elaborate functions, and the staff of the Data Program Library Service (DPLS) at the University of Wisconsin try to maintain a library of data files generated by local scholars in the social sciences, as well as to collect special service programs of possible interest to local investigators and researchers elsewhere. The personnel of DPLS maintain reference lists of data in other archives and serve as intermediaries in obtaining research data from such agencies, retaining a backup file of such material when received. Staff members also prepare data packets for classroom use at the request of instructors and assist in the research of students and sometimes faculty by providing advice on coding and program selection, as well as elementary instruction in the use of the program packages available at the university computer center. The Social Science Data Archive of the Laboratory for Political Research at the University of Iowa performs similar functions in serving the research and instructional needs of social scientists, both at the University of Iowa and at the twelve liberal arts colleges which make up the Iowa Regional Computer Network. Since it was estab-

lished in 1969, this archive has acquired more than 300 machine-readable studies in a variety of disciplines, including history. The laboratory also publishes *SS Data*, a newsletter designed to promote fuller use of data archives in general.[2] Forty archives in the United States and abroad now contribute information concerning their activities to this newsletter.

As yet, the historian has been in most respects a very junior partner in most data archiving developments. Because only a relatively small proportion of historians has been engaged in automated data analysis, economists, political scientists and other social scientists have generally shaped the processes of generating and storing machine-readable data. Moreover, these social scientists for the most part have been interested in contemporary society's institutions and problems; their data needs have therefore overlapped considerably and their style of research and use of social science theory have been similar, regardless of discipline. On the other hand, even when historians have produced computer-aided quantitative research, it has often been essentially humanistic in intent and form, rather than designed to test specific social science theory. An alliance between the social scientist and the quantitative historian in the common cause of data archiving is thus not as easy as preliminary consideration might suggest.

Historians have not taken complete advantage of the opportunities that the computer age has offered them. For example, they have not exploited the machine-readable data files issuing from the social scientists' survey research that time is rapidly converting into historical source material. The rigorously designed public opinion surveys of the past thirty to forty years—as contrasted with the heterogeneous collection of public opinion polls conducted by newspapers and magazines extending back to the nineteenth century—now provide a longitudinal dimension of some magnitude. Although splicing data taken from a variety of survey agencies and polls is a task requiring much skill, survey data offers a rich but still ignored field of research to historians interested in quantitative approaches to the history of the United States since 1936. Despite historians' neglect of these resources, some historians have been strongly influenced by the theoretical and methodological trends in the social sciences during the last generation and by the development of computer-aided research during that period.

In retrospect, it is now clear that the late 1950s and early 1960s were crucial years in the development of quantitative analysis in

economic, political and social history in the United States. Developments in economic history were more spectacular in various respects than those taking place in political and social history; even in these latter areas, however, some fundamental work was being done, various seminar directors were stressing the yield to be expected from the application of social science theory and quantitative methods in history, and the groundwork was also being laid for a truly impressive collaborative effort in the development of machine-readable data archives. As a number of researchers came to appreciate the importance of nineteenth-century voting returns for the development of a "new" political history, they also became aware of the wasted motion and resources involved in repeated trips to the basic sources, then in "a disreputable state of scatteration."[3] Researchers individually laboriously abstracted data, prepared code sheets, and had the data keypunched before data analysis could begin. Why not therefore develop some sort of collaborative venture that would retrieve the data necessary to prepare a master file of machine-readable popular voting returns for all the states for as much of our national history as possible, and which would, once completed, be freely available to all interested researchers?

Stated so simply, such a query had only one sensible answer; in the late 1950s, however, the audacity of the proposition implicit in it was startling. Historical research had been typically the work of lonely prospectors. Collaborative effort was not without precedent among historians, however; they had long utilized the resources of their national association to print collections of manuscript sources and to produce bibliographic compendia and guides to manuscript holdings. Moreover, the understanding by political scientists that one body of quantitative data—e.g., the results of a presidential panel survey analysis—might serve as the basis for a considerable number of studies done by different scholars was easily extended to the popular source that the election returns promised to be. Such thinking crystallized in the conversations of Charles Sellers, Lee Benson, and William Riker (a political scientist) in 1958 when all were fellows at the Center for Advanced Study in the Behavioral Sciences at Stanford, and in various discussions which these men held at professional meetings with historians such as Samuel P. Hays.

General descriptions of the development of the Historical Data Archive of the Inter-University Consortium for Political Research have appeared elsewhere, and the specific details appear in the annual reports of ICPR.[4] As the result of sympathetic reaction on the

part of W. Pendelton Herring, president of the Social Science Research Council, and members of its board of directors (particularly V. O. Key, Jr. and Roy F. Nichols), W. Dean Burnham obtained funds to explore the feasibility of retrieving and preparing machine-readable files of American electoral returns. Warren Miller, director of ICPR, and Angus Campbell of the University of Michigan's Survey Research Center believed that the testing of theories generated in electoral survey analysis against time series, although presenting various analytical and conceptual problems, also held the promise of significant substantive and theoretical advances in the study of American politics. They were therefore sympathetic to the idea that a historical data archive might well be an appropriate activity of ICPR. Cooperating with Miller, Benson performed a remarkable feat of organizational legerdemain by obtaining the approval of the Council of the American Historical Association (AHA) for the organization of an Ad Hoc Committee for the Collection of the Basic Quantitative Data of American Political History (AHAQDC) under the association's aegis.[5] This committee in turn organized a network of state subcommittees to collect county-level electoral data from the published government documents and archival records of every state since 1824 to be forwarded to ICPR for processing into machine-readable form. Both the National Science Foundation (NSF) and the Ford Foundation assisted in financing the project. A historian interested in political analysis, Howard Allen, joined the ICPR staff in 1964 to supervise the development of the Historical Data Archive and worked to solve the special problems involved in processing historical data and in developing an effective archival system for them.

In cooperation with ICPR, the AHA committee sponsored a conference at the Fels Institute in Philadelphia in 1964 in order to discuss the problems involved in the construction from federal census data of collateral series of demographic, economic and sociocultural data at the same county level of aggregation as the electoral series. As these developments moved forward, committee members learned that the roll calls of the U.S. Congress from 1789 through the 1930s were available in a form suitable for machine processing as the result of the work of personnel in a WPA project directed by Clifford Lord during the later years of the Great Depression. As a result of these developments, researchers were able to obtain from ICPR data from three major historical data series by the late 1960s. By then, officers in the foundations instrumental in providing funding for retrieval and processing of the historical data series had concluded that a more

conservative approach to the support of data processing was in order. As a spokesman of the National Science Foundation put it, the time had come to see whether the very considerable investment made in the Historical Data Archive would be justified by the degree to which scholars used it. Since the late 1960s major funding agencies have, in general, subsidized data retrieval and archiving only as an aspect of substantive research projects.

With the completion of the processing of the major historical data series and a change in attitude at several major funding agencies, the first major phase in the development of the ICPR Historical Data Archive ended. The process should be considered a rather striking achievement. Although the state subcommittees of AHAQDC occasionally supplied data for processing that was inadequately described or otherwise deficient, the widespread network generated a sense of involvement and performed an advertising and educational function that might have been lacking if dependence had been placed solely on a central organization. At one point, AHA committee and ICPR personnel had hoped that the electoral data could also be aggregated at the level of minor civil subdivisions, and ICPR staff experimented with Wisconsin voting returns at the precinct level. It became clear, however, that the funds required for aggregation of voting data at this level were not available. Some scholars have argued that minor civil-subdivision data allow electoral analysis of higher quality than do county returns, but this line of criticism not only overlooks some of the problems involved in the use of minor civil-subdivision data, but also exaggerates the deficiencies of county level data and underestimates the range of analysis possible in its use. Furthermore, it ignores the possibility of using minor subdivision sample data in conjunction with analysis of the larger units, and disregards the cost constraints that have been involved. There are few—if any—instances in which researchers have convincingly refuted general conclusions carefully derived from county level analysis on the basis of analysis of smaller electoral units.

The second phase of development of the Historical Data Archive of ICPR was less spectacular than the initial stage, but perhaps has been even more impressive.[6] Requests from investigators for data from the basic historical files have increased in number rather steadily, reaching a figure of 21,081,895 card images in 1973-74, approximately one-half the number of card images distributed from the Survey Research Archive of ICPR. About 50 percent of the applicants are professional historians, with the remaining number of applicants

from the social science disciplines in general. Meanwhile, the archive has continued to expand. Retrieval and archiving activity funded in conjunction with research proposals supported by NSF and the National Endowment for the Humanities (NEH) in French social and political history has produced important series of data from the *Statistique générale de la France.* The latter foundation also provided funds to the Wisconsin State Historical Society and ICPR that allowed staff members of these institutions to extend the American county level electoral series from 1824 back to 1789 insofar as these data have been found to exist. ICPR personnel have also obtained data files bearing on the political and social development of other nations that are comparable to the basic American series in the Historical Data Archive.

ICPR personnel now routinely invite historians and social scientists holding data files of interest to the historical and social science communities to present copies to the Historical Data Archive. Although in the late 1960s the Consortium Council approved the creation of an advisory subcommittee headed by the historian member of the council to provide policy recommendations and identify specific data sets of interest for the Historical Archive, relations with the AHA committee remained close. Participants at conferences held in 1967 at Ann Arbor by the AHA committee surveyed the quantitative data resources of other nations in papers ultimately published under the editorship of Lorwin and Price,[7] and it was in these conferences that the *Statistique générale* project originated. The staff of the ICPR Historical Data Archive used the committee's survey of available data files in the hands of researchers during 1973 in solicitation efforts. No other data archive currently approaches the ICPR Historical Data Archive in the number, size and utility of its machine-readable file holdings in the field of history.

One of the great resources of the historian has always been the body of records accumulated in the departments and other government agencies in the national capital and, since 1934, the special archival concern of the National Archives. By the late 1950s, as government agencies in Washington turned increasingly to the use of machine processing of data, it became clear that the world of the archivist, well-ordered conceptually if not in fact, was also becoming a great deal more complicated. In an earlier era, federal archivists had decided that the Hollerith cards used for recording individual census returns and other quantitative data were not to be included in the categories of records retained by the national government. Never-

theless, the very magnitude of the movement to convert data into machine-readable form for analytical purposes convinced various farsighted individuals at the National Archives, notably Meyer Fishbein of the Records Appraisal Division,[8] that much of the basic data concerning governmental functions preserved during earlier periods in some form of written, typed or printed records would be lost if archivists ignored the thousands of tapes and other machine-readable data files then existing in the governmental community.

Despite such interest, it was not clear during the early 1960s that the National Archives would serve as the agency through which basic machine-readable records of the federal agencies were to be preserved. Social scientists active in the American Economics Association and the Social Science Research Council promoted the idea of a federal data center which would be responsible for coordinating the management and preservation of machine-readable data files in the Washington agencies and bureaus. This point of view was advanced most notably in the report of the so-called Ruggles Committee of SSRC.[9] These advocates of a federal data center were primarily concerned with facilitating the access of investigators in the research community to important bodies of contemporary economic data being developed or held by government agencies; discussion of the role of the National Archives in the continued preservation of government-generated data was masterfully unclear in the Ruggles report. In the past, its authors noted, the National Archives had preserved basic records (such as corporation income tax returns since 1909), but had also discarded data derived from intermediate stages of processing. Machine-readable data analysis, however, had produced a situation in which intermediate records were sometimes more valuable than the final data. Although it was noted that National Archives personnel were becoming aware of the problem, "the problem is so vast that it may require completely new procedures and new policies in the future."[10]

Unfortunately, the idea of a federal data center was much more reasonable to the research community than to the members of Congress and the growing numbers of Americans who saw computers and data banks as a threat to individual privacy. That society should try to understand itself, and that procedures could be developed to enable scholars to contribute to that end without invading the privacy of the individual in an embarrassing or harmful way, seemed to be maxims that carried more conviction in the conference rooms of the Social Science Research Council and the symposia at social science confer-

ences than in congressional committee hearings or the minds of both conservative and liberal congressmen. If not dead, the idea of a federal data center was certainly in cold storage by the late 1960s.

In 1967 the Archivist of the United States set up a committee to study the machine-readable data holdings of the federal agencies. The committee's report resulted in the establishment in 1969 of a Data Archives Staff to inventory federal tape libraries and identify files that were believed to have continuing value. From this beginning developed the current Machine-readable Data Division of the National Archives, headed since July 1974 by Charles Dollar, a historian and author of various publications in the field of quantitative history. In April 1975 the division housed fewer than 1,500 reels of tape,[11] clearly a very modest beginning in view of highly tentative estimates that "agencies of the Federal Government store and process information on the equivalent of 11 million computer tapes," and that automated processing is still increasing in the federal government.[12]

The staff of the Machine-readable Data Division of the National Archives faces immense problems in evaluating tape content, in providing storage facilities, in surmounting technological obsolescence of software and hardware, and in offering services to researchers; this great institution is indeed just embarking on a most fateful venture. Obviously, it is one which in the future will affect the lives and work of many historians who have no wish at present to be involved in the computer revolution. In some cases, e.g., automated correspondence files, the research that follows recovery of the items will be little different in the future than the research done by many scholars in the correspondence files at the National Archives today. In other cases, such as analysis of the personnel records of various agencies, the logic of the storage medium will be translated by some researchers into more elaborate quantitative analyses than would otherwise have been the case. For other quantitative series, the rigor of historical analysis will equal that of analysis performed by government statisticians with contemporary objectives in view.

For the most part, the data that concern the Machine-readable Data Division of the National Archives are analogous to the data being generated by survey research. It bears upon the present and will lie within the domain of "recent" history for a generation to come. It is doubtful that the division will have the manpower or funds in the near future to convert the archives' retrospective holdings of quantitative data now in conventional form into machine-readable form. Staff members of the Machine-readable Data Division are presently

interested in serving as an information clearinghouse for files which were derived from federal records or were funded by federal agencies. Two examples of such files are: (1) research tapes using data from the U.S. censuses of the nineteenth century, and (2) the many machine-readable transportation studies of American cities financed by the Federal Highway Administration during the past forty years.

If one can say that the National Archives has begun to adjust to the computer age, one cannot go quite so far in describing the reactions of most state archives. These agencies have typically had difficulty gaining sufficient legislative support to provide housing for their records, let alone organizing them for efficient use. Like federal government agencies, state agencies have harnessed the computer, but apparently only the staff of the Florida State Archives have yet moved beyond the point of inventorying and appraising machine-readable data files to the task of actually preserving them, although some machine-readable indexing and inventorying projects are now underway elsewhere.

In at least one instance, however, a state archives has begun to convert important data series into machine-readable form. In March 1975, John Daly, director of the Illinois State Archives, announced an effort to promote the greater use of state government records of the type useful to practitioners of the "new" histories. He reported that his agency was "preparing an attempt to place on Hollerith Cards all of the data in regard to land purchase entries in the Federal District Land Office tract books for Illinois, as well as similar entries found in the records of the state [land disposal agencies]."[13]

State historical societies have not shown much concern for machine-readable data. Among them, the Ohio Historical Society has made the most impressive effort, organizing the Ohio Data Archives in 1973. Directed by Eugene Watts of the history department at Ohio State University and assisted by an advisory board drawn from the history and social science departments of various Ohio universities, this agency planned to

> conduct a continual search for quantitative material and . . . administer the technical functions of accessioning, storing, and then diffusing such data on a basic cost basis. . . . The major requirements for data set accessions are that the material must be related to some aspect of Ohio, it must have been collected in a professionally competent manner, and it must have a potential interest for other users.[14]

Materials collected are stored on magnetic tape and disseminated to interested scholars. Watts has reported considerable progress toward the agency's goals but somewhat less enthusiasm and cooperation among historians than he had hoped.[15] Antedating the developments in Ohio by some years (but not planned as a continuing enterprise) were the efforts of staff at the Wisconsin State Historical Society in cooperation with the Wisconsin State Archives to prepare a detailed set of machine-readable county level data depicting Wisconsin's economic, social and human resources throughout the state's history. The code books for these data became available in early 1975 and the data may be obtained through the Data Program Library Service of the University of Wisconsin.

The archival and historical agencies supported by American governments are clearly beginning to react to the advent of automated data systems, but the process has not gone far. There are lessons to be learned by both archivists and the agencies whose data they must preserve, as well as institutional adjustments to be made, including recognition of the fact that surrender of agency tapes is expensive to a degree that surrender of paper records was not assumed to be.

In effect, the scholars who initiated the data retrieval and archiving projects that provided the foundation for the Historical Data Archive of ICPR were predicting that considerable numbers of researchers would use the historical machine-readable data series once they became available. None of them were planning research projects that required analysis of more than a small portion of the data to be assembled; nevertheless, they believed that the electoral, legislative and ancillary data files were so important to the analysis of significant political and social processes that they would be widely used once available. As it turned out, Miller, Benson and their colleagues correctly assessed the importance of the electoral and congressional roll call data.

The staff of the Machine-readable Data Division of the National Archives and those of state archives and historical societies must also forecast future needs when making decisions concerning both the preservation of current governmental records in machine-readable form and the conversion of conventional records to that medium, if the latter policy becomes feasible. Although the personnel of the National Archives have made commendable efforts to seek information about automated data processing in the research community, it might be appropriate for the archivist to create a continuing advisory group of scholars qualified to counsel the staff of the Machine-read-

able Data Division, in order to evaluate the adequacy of conventional archival criteria for preservation for application in the automated data area, and to provide a continuing flow of information on scholarly needs. One or more conferences on these matters would perhaps be an appropriate beginning. State archival staffs should follow the same route.

Realistic consideration of the current situation suggests that data retrieval and conversion projects comparable in scope to the original ICPR-AHAQDC venture cannot be financed at present. Perhaps, however, it is time for NSF personnel to review their thinking of the late 1960s. If the grants in support of the ICPR archive are generating research returns in amounts comparable to or greater than equivalent NSF funds spent elsewhere, some reevaluation and reprogramming may be in order at both NSF and NEH. Setting this possibility aside, there would be considerable disagreement among researchers about which data sources should be given first priority in further archiving activities. A national households sample from the manuscript federal censuses from 1850 to 1950, or a sample drawn from the corporation income tax returns preserved by the National Archives, however, would certainly prove highly attractive to investigators. Should the archivists of the Church of Jesus Christ of Latter-day Saints find the resources to automate all or a major part of the magnificent collection of local records collected by that body during the last generation, behavioral historians would find themselves in a delightfully different ball game.[16] Barring unexpected developments, however, usage and cost factors will probably dictate for the time being that much of the historical machine-readable data generated in the near future will be an outgrowth of the research of individuals or teams who are employed by educational or research institutions and derive additional support from private or public research funding agencies.

This latter type of data set or file is as old as the computer age. The history of the Parker-Gallman sample of southern farms and plantations drawn from the 1850 and 1860 federal agricultural and population censuses is illustrative. William Parker began the actual work of drawing this sample from microfilms of the manuscript census returns in 1960 while at the University of North Carolina, and a considerable number of scholars have used this information—notably Parker and Robert Gallman, their students, and Robert Fogel and Stanley Engerman while preparing *Time on the Cross*.[17] The sample has never been placed in a central depository for preservation and

circulation; other investigators have obtained copies by requesting them from the research team that could most conveniently provide them at the time. Gallman is currently taking steps to place a master file on deposit in an appropriate archive. More recently, Roger Ransom and Richard Sutch have developed a similar sample of southern farms and plantations from the 1880 manuscript census and, building upon the initial work of Fogel and Engerman, Fred Bateman and James Foust have prepared a sample of northern farms from the 1860 manuscript census. Obviously, these data bear upon only a limited era in the history of American agriculture, and that incompletely.

The publication of Stephan Thernstrom's study of social mobility in Newburyport[18] gave a great fillip to the systematic quantitative analysis of urban populations. The development of machine-readable data sets drawn from the U.S. censuses of the nineteenth century and related materials has been underway since the mid-1960s. A number of such data files promise to be as interesting to social and political historians as the Parker-Gallman file has been to economic historians. These include: (1) data sets involving the populations of Philadelphia, Hamilton (Ont.), and Kingston, Buffalo and Poughkeepsie (N.Y.), developed by Theodore Hershberg, Michael Katz, Stuart Blumin, Laurence Glasco, and Clyde Griffin; (2) a Pittsburgh file created by Glasco with the encouragement of Samuel P. Hays; and (3) one covering Cincinnati populations developed by Zane Miller and Guido Dobbert. Facing common problems of occupational classification, the group first mentioned have taken pains to make their data sets compatible in order to foster comparative analysis. Other projects that will provide useful data include those of Richard Jensen and colleague, who are developing migration and population files in cooperation with the Institute for the History of the Family at the Newberry Library.

It is impossible to estimate how many current research projects will generate machine-readable data files that should ultimately be made available for use by other interested researchers. Swierenga recently noted that more than 300 historians have reported ongoing computer projects to various clearinghouses since 1965;[19] of course, sociologists, political scientists and other social scientists have meanwhile been developing various data files of a historical nature as well. Although restricted in its circulation by focus and by the medium of publication, a questionnaire circulated by the AHAQDC in 1973 elicited 225 responses, and approximately 90 of the respondents reported that

they held data sets of interest to other researchers which they were willing to archive.[20] In contrast, a recent listing cites only seventy-four data sets "complete and available for use" in machine-readable archives, although some of the ICPR files listed are massive and could be used by large numbers of individual scholars.[21] This is not to imply that all machine-readable data sets should be archived or maintained in readiness for prompt distribution. Some are of such limited interest to other investigators that preservation by a central agency would surely represent a waste of resources. Identification of such files is sometimes difficult, however, and is clearly one of the continuing problems of the era of machine-readable data.

It is easy to maintain that historians who develop machine-readable files in the course of their research should be willing to make them available to other researchers at an appropriate point in the investigation. It is much more difficult for the reader to check the work of the researcher who uses computer analysis than one who uses conventional sources. Theoretically, the researcher should welcome critical examination of his work and be willing to facilitate it. Moreover, many data sets can be used for a variety of types of secondary analysis that the original investigator often has no intention of performing. Considerations of this sort have led most funding agencies of the federal government to specify that data collected in projects for which they provide funds are to be considered government property rather than the property of the individual researcher, and that such data sets should be available on request to other interested parties. No requirements are made as to the form or general condition of the data when they are surrendered, however.

Many data sets have coding idiosyncrasies or other troublesome characteristics that the original compiler tolerated because of familiarity with the material, but which lessen their utility to others. Few data sets have arrived at ICPR that did not need some degree of cleaning or reclassification. Other data sets reflect the idiosyncratic computer facilities of the researcher's institution. In the current state of the arts and ethos, few principal investigators, having completed a research project, are prepared to spend additional weeks or months reformatting data and code books for their maximum usefulness in an archival depository. If a file is allowed to sit on the researcher's shelf for a few years, however, tape or card deterioration or computer processing developments may render it useless. Those interested in the development of data archives have long argued that funding agencies should require funded researchers to place their data in a

depository named in the initial grant application within a specified period of time.[22] Nevertheless, the data archivist's only weapon in extracting data sets from scholars remains moral suasion; too often it has proven inadequate to the task.

American historians are presently much less apt to use relevant and available machine-readable data in their research—or to develop machine-readable data when appropriate—than are social scientists in general. Behaviorism came late to history and, in contrast to the social sciences, relatively few of the great army of Ph.D.s trained during the 1960s were committed to the use of quantitative analysis in their research. The proportional increase of such individuals was rather considerable, however, and by the end of the 1960s many history departments were becoming interested in hiring individuals who could teach courses in quantitative analysis and data processing. Unfortunately, the onset of the academic depression blunted this development to a considerable degree. Established historians have also essayed quantitative research, but they have often found the road rocky. Decisions made during the Nixon administration to restrict or eliminate the postgraduate training programs of the National Science Foundation and other federal agencies have made it difficult for interested groups to serve the middle-aged scholar who wishes to retool.

With this situation in mind, it is not surprising that the ethos of cooperative research and an understanding of the importance of secondary analysis are less pervasive among historians than among social scientists. Although the ICPR staff contacted all individuals expressing willingness in the AHAQDC 1973 survey[23] to make their data files available for the use of other researchers, few of them have yet deposited their materials in a generally accessible archive. Because most historians are still learning the niceties of coding and data processing "on the job," their files may well be more difficult to clean and service than those obtained from social scientists.

Historical data presents investigators with somewhat different problems of research, design, coding and manipulation than those faced in many social science studies. Developing a file for a panel survey in which respondents are interviewed over a relatively short period of time is considerably different, for instance, from working with historical census data in which individuals may or may not be represented in a series of enumerations separated by substantial time lapses, or from developing a file in which data from several different sources must be merged. Historical data bodies may be massive. Is the

drawing of a sample of individual cases an appropriate technique, or is the recording of complete populations of cities, wards, counties or townships a better strategy? There are differences of opinion as to the most appropriate strategies to follow in processing data in such cases, and the divergence extends to highly technical issues. The editor and authors of the *Historical Methods Newsletter* have performed yeoman service in presenting such matters, but the inexperienced historian and some who can lay claim to considerable experience in such matters may be confused by the claims and counterclaims of enthusiasts, or fail to understand that technically elegant solutions may not be appropriate to their circumstances. Part of the solution to these problems rests in the hands of the departments that produce the Ph.D.s of the history profession. Both undergraduate and graduate programs must adapt to computerization so that adequate training in historical data processing and quantitative analysis can be provided. This is, of course, a long-range solution; for the present data archives and interested associations, or agencies such as the new Social Science History Association, must work to raise the level of expertise within the profession. Should history departments and other agencies fail in such efforts, the answer may be that social science departments, now increasingly interested in the historical dimension, will rear their own breed of social science historian, a development already well advanced in the field of economics.

If all historical researchers were now ready and willing to deposit their data files, there would probably not be archiving facilities sufficient to clean, catalog, maintain and circulate them. Essentially, these are library functions, but few university libraries have yet established machine-readable data collections or moved to incorporate the data archives that have developed on campus in response to social science research and teaching needs during the past twenty years.[25] This is easy to understand. The flood of publication during the last generation and the striking increase in the number of student and faculty library users have strained the capacities of university and college libraries, while inflation has eroded the value of the library funds available for the purchase of library materials. Library administrators generally lack the specialized knowledge necessary to supervise machine-readable data archives and positions in such agencies cannot be adequately filled by conventionally trained library or archival personnel. Some librarians fear that control and copyright problems equivalent to those already being encountered in providing photocopy services may develop in this new field of service.

There are indications that the data archives may indeed gravitate to the control of the university library. For instance, the budget of the Princeton University Library includes the campus ICPR membership fee, as is true in a few other cases. Some library personnel are becoming acquainted with the technical problems involved in managing machine-readable data. Developments in the National Archives may serve as a model in this respect, and the availability of 1970 U.S. census data tapes has brought some librarians face to face with the new age.[26] University and college library personnel are becoming acquainted with computer capabilities in other connections as well, notably in the automation of ordering procedures and circulation systems and in the development of computerized regional cataloging, interlibrary loan, serial control and processing information systems such as the Ohio College Library Center.[27] As the machine-readable data file becomes better recognized as a research resource, and literary works increasingly come to have their machine-readable editions, the logic of making data archives a part of library services will become convincingly apparent.

This article suggests that the computer revolution has not yet stimulated massive and imaginative response in either the historical profession or those supporting agencies that have typically served its members. Neither the potential magnitude of change that the computer promises in historical research nor the unique problems faced by its historian users are well understood by either the academic community or the public and private agencies that supervise and sustain it. It is certainly normal for disciplines to experience periods of crisis when both its members and the public question its utility. Some believe that time-oriented studies currently face such a crisis today; shrunken college and university enrollments in history courses, elimination or reduction of history requirements in teacher training, and public disinterest in the writing of most historians are cited as evidence. To some historians, the use of quantitative methods and the computer is part of a broader effort to develop a more theoretically oriented and rigorous variety of history that will assist in understanding human development and contemporary society. This, they believe, is the appropriate answer to history's malaise and they find confirmation of this view in the fact that after a behavioral revolution that was notably anti- or ahistorical in tone, many social scientists are moving to reintroduce a historical dimension in their research. Within a short time, a relatively small number of quantita-

tive historians have substantially altered the appearance of considerable stretches of historical terrain.

Like most innovators, these historians face the distrust of colleagues who see no cause for alarm in the profession, or believe that the remedy lies in doing old things better. More serious is the fact that these "new" historians do not fit into the current research establishment—their research proposals often lack the theoretical component that NSF demands, but at the same time are too quantitative to be received enthusiastically at NEH, where the code word for success is now *humanistic* (or so at least disappointed applicants sometimes believe). Such historians are also frustrated because their research concerns are not always taken seriously in other government agencies, where they should be. The efforts of the U.S. Bureau of the Census to block the opening of the population schedules of 1900 culminated a generation of frustration for historians who had seen the bureau terminate its former practice of certifying qualified historians as bureau clerks for the purpose of research, and successfully recommended destruction of the manuscript agricultural census schedules for 1900 and succeeding years. Research conducted in the open census schedules for the years 1850-80 has amply demonstrated that it is fallacious to assume that the contemporary analysts of any given census will indeed ask and answer all of the questions that seem important to succeeding generations of scholars seeking to understand their society. Historians recognize that the citizen's privacy must be protected, but they also know that this can be done without destroying the census rolls or establishing excessively long periods of cloture. In making suggestions to these ends, spokesmen of the Bureau of the Census, historians believe, are trying to offer the historian as a sacrifice to those who would deny society its right to understand itself.

Several years ago, Angus Campbell published a wry description of the dangers threatening the social scientist who tried to reach a New Jerusalem along the Glory Road opened by the computer: cost problems, data problems, organizational problems, confidentiality problems, etc.[28] Five years later the road is still there—and so are the obstacles. Relatively few historians are on that road yet, and it may be more difficult for them than for social scientists. Given the state of their discipline, however, it is essential that they push on.

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Observations of a Research Library Administrator

ROBERT W. ORAM

AT FIRST READING of the preceding essays, it would appear to the library administrator that book-oriented librarians have been defenestrated. A closer look, however, will suggest that they can stay on the inside of the window; they are asked only to change focus. That each writer suggests using his own lens is to be expected. Because the expansion of scholarship into such new fields as pop culture has been disconcerting to the traditional librarian, large libraries have been slow to move into the nonbook field. Pop culture, of course, may properly be viewed as the natural expansion of the collections of folklore and humor which American libraries have been acquiring in quantity for some time. Stevenson goes further, however, by suggesting that librarians of pop culture must also abandon standards in their collection. This is hard to accept, for it implies mere collection, not selection—and in days of space and money shortages! Selection will certainly continue to be imposed on libraries, not only by librarians for budgetary and curricular reasons, but also because the scholar-collector, when his academic reputation is at stake, will naturally turn into a scholar-selector. The collector of pop culture will then decide the library must select only materials in certain areas, usually confined to his own interests, of course, but with the realization that pop culture in its entirety is a very broad field.

The scholar has always defined the focus of library collecting. "Traditional" scholarship, of course, used to mean working with texts and producing critical work in Milton or Shakespeare, for example, and collecting practices were directed toward the first and early editions of such authors. Today, however, there is very little left for libraries to collect in the way of important editions of major writings

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from the sixteenth and seventeenth centuries, at least at reasonable prices; even the mines of the eighteenth century have been stripped of all the stray nuggets, which amount mostly now to pamphlets and broadsides. It is well to remind ourselves that traditional collecting was not always that scholarly. If the University of Illinois collected the traditional Shakespeare and Milton in the 1940s and 1950s, for instance, it also collected what was pop culture for the sixteenth and seventeenth centuries: school texts, grammars, catechisms and hymnals. Admittedly, such collections were essentially book oriented, with only occasional pictures, drawings, memorabilia, and ephemera.

Many of today's research libraries do make extensive use of movie criticisms and scripts, as Stevenson confirms in his article. In my own experience, there has been a high degree of selectivity imposed on the library by the film scholar himself. What is common to both the traditional and the newer scholar is the intensity which they bring to bear on the task of collecting; anyone who has not been confronted by a film buff building a background collection has not been near a research library lately. That this film buff has also turned elsewhere rather than to the library for the physical film is also evident. Many film scholars even seem to enjoy wrestling with film rentals. Eventually, as scholars may tire of this chore, the problem will return to the library; but for the present there is an intensity of collecting centered on the script and the background book.[1]

Jussim notes a new attitude toward collecting of visual materials, one person's trash being another's treasure. The statement is not quite so startling as it might seem, because scholars frequently see each other's material as trash. A common scholarly complaint is that the library should invest more in his/her particular kind of scholarship, and not waste funds on the trash used by a colleague.

One of the positive things in these essays is the plea that the materials will require a new kind of specialist trained to work with the documents as source materials. Jussim mentions this for film; Bogue stresses the same need in the handling of tape and data processing. Insofar as we may be seeing a differently trained person coming to library school, it is possible that some of the needs expressed here will be met earlier than might have been expected. Certainly, the role of libraries will be expanded because of the new breed of library school student.

Winger reminds us that increasing numbers of texts once long out of print and expensive to find (if one could find them at all), are now available at small cost. Even a small library with a good budget can

now bring texts into its collection for its individual scholar, either in reprint or microfilm, at a fraction of the cost of a rare book collection in the 1940s and 1950s. Unfortunately, there is no longer a reasonable budget in many small libraries, and some of that opportunity to build collections for the new scholar has gone. Miniaturization enables today's social scientist to use historical census material on film or fiche; and, as Bogue suggests, tomorrow's scholar will use it in a different format, on a computer tape, in which the data can be further manipulated. The costly microform census sets are one example of the kind of material which may force even large libraries to buy cooperatively, perhaps through the Center for Research Libraries. Unfortunately for libraries, some microfilm manufacturers do not permit cooperative buying. Convenient as the microform may be, there may be a need for the original, as Winger also points out. In fact, Tanselle notes that the analytical bibliographer may need several. As Winger states, it is sometimes cheaper to send the scholar to the original than to buy it, and various California schools have used this method to avoid duplication of scholarly texts. This concept presupposes good bibliographic control and even better location devices, however.

The most obvious problem that strikes an administrator is budgetary, for anyone who has been in the job more than two years has suffered at least one severe budget trauma. Good ideas, unlike Mr. Gump's good taste, cost more. If libraries were to take up pop culture as enthusiastically as Stevenson suggests, or to go into the collecting of visual materials—particularly film or video cassettes which are still expensive—new money would be needed or old established funds, already heavily burdened, would need to be reallocated. Many libraries have yet to start collecting movie films. Because of the expense this may be understandable, although the original decision may be questioned considering the value of the film as an esthetic, educational, and archival medium. To begin now to go deeply into collecting new formats, however, presents large established libraries with a problem similar to that of small libraries trying to establish themselves: both will find that lack of money has impeded expansion. Some of Jussim's visual files or Cobb's maps, of course, may not require large sums of money for initial acquisition, but they do require special handling, cataloging, and indexing, as well as specially trained personnel.

The costs of displaying the visual form in the library for the user must be considered, since movie or slide projectors, inexpensive in

themselves, are expensive to maintain. Furthermore, many display units must be available if whole classes are to take advantage of visual files. Some libraries have been clever and farsighted enough to call on the National Endowment for the Humanities or the National Science Foundation grants for equipment, but others will need to begin acquiring this type of equipment using their own operating budgets. The cost of machine maintenance has long plagued libraries, and the life span of a tape deck or a video cassette depends on how well it can be serviced. The library may decide to require the users to provide their own machines, although admittedly there are presently few fiche readers in private hands. The University of Chicago Press has chosen to be innovative; it is able to provide many more pictures through its fiche publications than could be furnished in a regular format at the same cost. Chicago's strategy is obviously based on hopes, either that microfiche readers will come down in price, a long-promised dream, or that libraries will make quantities of machines available. The demand may create the needed machinery, and we must thank the University of Chicago Press for testing the market. Television sets, standard in many but not all libraries, can display videotape, but the library must give up room for these which might have been used for other purposes. Again the old problem of priorities arises. The library may be reduced to handing out the film, the videotape, or the microvisual as it hands out a book. Since most libraries have rarely provided more than 20 percent of the seating space of its possible clientele, this is not quite so bad as it seems. But libraries like to be accommodating and to meet as many demands as possible. It would be nice for the library to furnish the equipment and have the user view the material at a convenient time and place within its walls.

Use of computer tapes through libraries, as suggested by Bogue, presents a somewhat greater problem. Indexing, cataloging and identification of computer tapes require special skills. Bogue has reminded us that most libraries or archives do not have the resources to clean a local data base as they receive it, and then to catalog, maintain, and circulate it. Special help is often needed in using this material, even when a ready-made program is provided for each tape. It is likely that most libraries, presented with the tape or disc pack collections, would simply hand them out and hope that the user knows what must be done with them. There is also the prospect of duplication of research effort in using computer tapes. How can one researcher who has manipulated files of a census bank inform an-

other researcher that there is no need to do what has already been done? Duplication of research has long been a problem, in all fields. Where it has been most costly, as in many scientific fields, there has usually been some special funding available to help libraries in their efforts to solve the problem; and where it has not been costly, the scholar has been left to his own devices, as in many humanistic and historical fields. We now face the prospect of the latter becoming costly, and can only hope for the special funding needed to minimize duplication.

The Samuel article, concerned with what has been happening to music libraries in the past decade or two, speaks of events which have affected academic libraries in general.[2] Expansion of doctoral programs called for further library resources, but the financial situation has now changed, and often these resources can not be properly used. Rapid growth carrying its own momentum and the slower shift to reduce—or even to eliminate—these programs present a particular problem for libraries, which after all are trying both to anticipate curriculum and research needs and to balance collections to fit existing programs. This split, which bothers libraries even in times of good budgets, is exacerbated when an institution is further forced to modify its objectives because of unpredicted budget reallocations.

Samuel, like most of the other contributors, clearly appreciates the problem of specialization, which has always had budgetary implications and which has often discouraged librarians from even hoping to build a balanced collection. The "squeaking wheel" approach to collection building has been minimized in libraries over the last few years by two main strategies: (1) the appointment of collection development officers, and (2) the development of acquisitions policy statements.

Indeed, most of the essays in this issue are well-prepared statements which will be accepted on the basis of the principle of the "squeaking wheel." On such arguments, acquisitions policy is formulated and reformulated to meet the realities of the special pleader. The reforms which are called for in many of these essays do not really involve drastic changes in direction; rather, they represent special pleading, which the library administrator must and should recognize. The point is clear that, when such major collections of nonprint materials are available, library policy and practice has no choice but to change.

What still remains to be understood is the absolute necessity for a university administration, an entire faculty, and the library to agree

fully on the implication of these practices. There are still too many faculty members puzzling over the most cogent library acquisitions policy when that policy conflicts with the research program for which they were hired.

For the present, if libraries are to incorporate the new formats, one obvious answer to the budget problems is cooperation. This concept, much honored in library literature, is currently being discussed in many circles, the most ambitious experiment today involving the Harvard, Yale, Columbia, and New York Public libraries. The even larger concept of a national periodical data bank, sponsored by the Association for Research Libraries (ARL) and the National Commission on Library and Information Science (NCLIS), and similar to the one now operating at Boston Spa in England, will probably have to be sold more to the faculties of large institutions than to those of smaller ones. Cooperation promises to save money for smaller libraries, and leave the largest libraries as resource centers, although these in turn would need to be supported by regional or federal funds if both traditional and nonbook collections are to be maintained. If funds cannot be found, there will have to be an increase in the recent trend of charging for services, such as many private institutions are now imposing for interlibrary loan. If libraries are to participate in the operation of data banks, as suggested by Bogue, or are to supply information to their clientele from commercial data banks such as Lockheed's, the user may be forced to pay at least part of the burden directly. Reference service has traditionally been free, but one wonders how long it can remain so without some kind of support beyond that furnished by the individual institution. If these additional services are to be furnished (and there is every evidence that faculty and students, at least in the sciences, and very probably in the social sciences and humanities as well, will demand them), then some budget rearranging and priority sorting will be required if traditional service is also to remain constant. In a budget crisis the new programs are often the first to go, and these, of course, are the ones which the data bases support. Changes of focus are scarcely new to libraries, however, and there are innumerable book collections lying fallow after a professor who specialized in them has left the institution.

New forms, as these authors usually mention, require a reallocation of space, and often a building of new space. Old space may be occupied by an entrenched force that may prove to be immovable, forcing the administrator into a Solomon-like stance. Even so classic a change as moving from the physical research book or newspaper to its

microfilm version calls for a redistribution of shelving, and usually the purchase of new shelving or cabinets, as well. The danger of disservice to the bibliographer, as Tanselle points out, is obvious—and his message in effect asks nothing less than that the circulation librarian, not just the rare book librarian, should be a specialist in analytical bibliography. Computer tapes do not vary in their physical components from visual or audio tapes; but the fact is that we are not exactly sure what kind of storage is required for full preservation of any tape media. Certainly, some kind of temperature and humidity control, obviously highly desirable for books, would seem to be essential for film and tape. In addition, microforms differ from each other enough in size to make space designers join company (for a change) with librarians in wishing that the much-vaunted standardization talked about in the second quarter of the present century had really taken place.

Meanwhile, little or no mention is made in these essays of the idea that the library might produce some of its own materials, particularly in the newer forms. Should it undertake this additional task, there is also additional cost for even more special equipment, space to house it, and trained people to operate it. We can only guess at the problems for libraries if computers are to be housed in the library, although minicomputers would now seem more to be what is needed. Cobb has noted that a big collection of maps, traditional in large libraries, always creates a demand, not only for those monstrous map cases piled up to the ceiling but for reader space with large desks. Stevenson points out the sheer bulk of material in a popular culture collection. A variety of different sizes will in itself create a demand for reallocation of space, which may not be readily available in the first place. In fact, the user of the pop culture collection is nudging the map user, the microform user is nudging the user of the visual collection, and the differing needs of these users have political ramifications. These new needs, as Stevenson points out, all amount to "an assault on the traditional." Stevenson further notes that his "materials are scattered everywhere, [and] it is nearly impossible to gain a comprehensive view of what is happening." He is referring to the secondary sources of popular culture, which not only lie at hand in the journals devoted to the subject itself, but which also must frequently be captured from the most unlikely of sources.

The library, if it is to maintain bibliographic control over its resources, has found that a new kind of specialist must be hired to work through vast quantities of material and make it available.

Computerization has made concordances, keyword indexes, or plain indexes more readily available either in printed form or, often more ideally but also more expensively, on-line. Use of a computer terminal brings its own problems, among them the need for a staff which must be retrained or specially hired to do work which is not available commercially. At the University of Illinois, a 50-year-old collection of Italian local history was sitting in boxes unused after the incunabula and the Renaissance material had been siphoned off. New directions and accomplishments in scholarship demonstrated that what was once taken to be ephemeral material, not worth the effort of full cataloging, was in fact a rich source of valuable nineteenth-century reprints of Renaissance writings and of *risorgimento* material. Computerized indexing was the answer here; thanks to budget shortages, however, no regular staff could be diverted for this task, and it was obvious that a grant would be needed. Fortunately, funds from the National Endowment for the Humanities were obtained, and one more library was introduced to the world of grantsmanship.

Hiring specialists is a theme that runs through most of these essays, no matter what the source of funds. In reality, can the eager and knowledgeable graduate of a library school move immediately into a position where he is responsible for major decisions on the handling of pop culture items? One wonders; here the task of the library school enters the picture—and at a time when specialization is a threat to marketability of library school graduates. Stevenson expects many of these noncomputerized materials to be handled like archival collections. But, as he also mentions, the "future of popular culture as a discipline will depend on the quality of its research." There can be no research if the scholar cannot identify the material he needs, or at least be allowed to spend the time to wade through vast quantities of documents looking for it, in a suitable area where it can be stored for indefinite use without being disturbed. Once the scholar has a grasp of the material he finds, he may find it desirable to handle the data he has gathered on a statistical basis, and within the library—a kind of in-house data processing which libraries have not faced.

Another problem of bibliographic control involves the huge sets of microforms poured out by University Microfilms and other firms, some of which provide neither cards nor printed indexes to their contents. Some libraries have not subscribed to or have canceled these sets for lack of adequate indexing. Libraries may similarly decide not to acquire a needed body of material, whether in pop culture, visual, or even rare books, when there is no ready access to it. In fact, the

Stevenson, Jussim, Samuel, and Bogue articles in particular do seem to open up the same prospect of large, unclassified objects in many formats waiting year after year for proper processing.

It has been pointed out in several of the essays that the needs of the user have changed; in fact, the user has changed. There are those of us librarians who secretly welcome such a change, for there is nothing so demanding (or challenging) as a passionate scholar in pursuit of his subject. The new scholar, however, will probably prove to be more demanding and even more challenging. The new kind of librarian or information specialist may be in greater demand than the traditionally trained reference librarian, not only because of the insistent ways of the scholar, but also because of the peculiar characteristics of the material. Querying the new data bank, for instance, may require new skills for which the scholar will be forced to depend on the librarian, simply because the time and money spent on gaining access to the data bank will take the scholar back to the librarian who has the needed skills. Time is money these days, particularly when dealing with the very expensive commercial data banks. The more time the scholar can save by using an expert, the more money left over to use on the query.

Many of the formats may be new, and many of the objectives themselves are also new. Nevertheless, the problems are old insofar as they are basic to all librarianship; the challenges thus tend to resemble the ancient battles called "getting the book through processing"—in terms of the frustrations involved, the ingenuity needed, and the prospects of success.

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Library Trends

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January 1978, *Institution Libraries.* Editor: Harris C. McClaskey, Associate Professor, Library School, University of Minnesota, Minneapolis, Minnesota.

April 1978, *Films in Libraries.* Editor: Pat Mackey, Audiovisual Consultant, Monroe County Library System, Rochester, New York.